

The catalysts and constraints of castle-building in Suffolk
*c.*1066-1200

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Volume I

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Abstract

Twenty-seven Suffolk castles were built between 1066 and 1200. This thesis summarises the modern multi-disciplinary surveys of six of them, with the objective of identifying their location, morphology, form and function. The majority of Suffolk castles were built between the late 11th and mid- 12th-century and reached their largest number during the civil wars c.1135-54. However, a few remained operational after c.1200 and those that did are characterised as either royal or baronial *caput* castles. Moreover, almost all Suffolk castles were originally earth and timber, whereas the surviving examples were rebuilt in stone before c.1300. Therefore, those castles that survived beyond or were established after c.1200 are unrepresentative. Instead this thesis focuses on the period 1066 to 1200, when the more common sub-baronial, earth and timber Suffolk castles were evidenced.

Chapter one identifies the key issues. Chapter two critiques each of the current models in castle studies before rejecting them in favour of a modified *Annales* model. Chapter three identifies the constraints of the *longue durée*, identified as the environmental factors, defined as the climate, topography, geology, hydrology and timber supply in the vicinity of the castle. Chapter four identifies societal constraints, which are sub-divided into structural, social and cultural, and focuses on the Abbey of St Edmund's, its cult, viceroyship, ecclesiastical autonomy and barony, its relationship with the new elite and how it influenced castle building.

Chapter five focuses on three of the six surveyed castle earthworks to establish the *evènement* level of the model, which identifies the castle building agents and the specific historical and political context in which these castles were built. Chapter six brings the different sources and levels of data together to offer a new model, a more nuanced definition of a castle and a comprehensive assessment of the conflicting demands of the catalysts and constraints operating upon the construction of castles in Suffolk. In this it is supported by over two hundred figures and plans, numerous tables, a comprehensive set of appendices and an extensive bibliography.

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Notes on abbreviations and references cited in the text

Abbreviations

BL Mss:British Library Manuscript

NSMR:English Heritage National Sites and Monuments Record.

OD:Ordnance Datum.

P.R.:Pipe Roll Society

SAUSMR:Suffolk Archaeology Unit Sites and Monuments Record.

SCRO(B):Suffolk County Records Office (Bury). These documents are occasionally undated and the full standard reference from these catalogues has been cited in the text.

SCRO(I):Suffolk County Records Office (Ipswich). These documents are occasionally undated and the full standard reference from these catalogues has been cited in the text.

Note on Little Domesday Book references

Wherever possible the referencing has followed the Harvard system laid down in the London University regulations. However, the Domesday Book referencing follows the more detail methodology developed for the Phillimore county editions (Rumble 1981; Brown 1984; Rumble 1983; Rumble 1986).

Note on Tables and Appendices

All tables and appendices 2.0-19.0 referred to in the text can be found as Microsoft Excel spread-sheets or Word document on the CD in the pocket of Volume II.

Chapter 1.0: Introduction

The most persistent and intractable question in castle studies concerns the definition of a castle. Figure 1 shows the headquarters building of Gibraltar Barracks in Bury St Edmunds shortly after its construction c.1878. Formerly the depot of the 12th Regiment of Foot and constructed following Cardwell's army reforms of 1873, it remained the regimental headquarters for 92 years until 1960, when the Suffolk and Norfolk regiments merged. Today it houses the regimental museum and an army recruitment office (Figure 3). It is known locally as the 'Keep' and is crenellated with two supporting towers pierced with 'arrow' loops. There are also two flanking 'towers', likewise pierced with 'arrow' loops, located in the south-western and south-eastern corners of the barrack wall.

The barrack's name is derived from the siege of the Rock 1779-83, when the regiment played a notable part in its defence, in recognition of which it was granted the 'Citadel and Key' arms of Gibraltar along with its motto '*Montis insignia Calpe*', which are displayed on the regimental cap badge and colours (Lummis 2007). The 'Keep' represents the citadel of Gibraltar and resembles the surviving Merinid fort c.1333-71 (Figure 2)¹. This is known as *La Calahorra* or the Tower of Homage, which has undergone considerable subsequent modifications to its original form (Fa & Finlayson 2006: 11-13).

The fact that a Victorian regimental headquarters resembles a Moorish Andalusian citadel is relevant to the idealised concept of the medieval castle, but has little relevance in the following discussion. This thesis argues that some current theoretical frameworks in castle studies have been guilty of a lack of clarity and misrepresentation by basing their assumptions on idealised models rather than on empirical archaeological and historical data.

Einstein's (1933: 9) famous dictum states that:

'The supreme goal of all theory is to make the irreducible basic elements as simple and as few as possible without having to surrender the adequate representation of a single datum of experience'.

The first five Anglo-Norman kings of England all won and maintained their thrones against rival claimants by war, but the crown did not possess a monopoly on warfare. For much of the

¹ The first fortification on this site was an Islamic castle constructed on the orders of Abd al-Mu'min (1094-1163), leader of the Almohad dynasty. Gibraltar was captured by the Castilian commander Alonso Pérez de Guzmán in 1309 and the Castilians subsequently successfully resisted an attempt by the Nasrids in 1316 to recapture it. The North African Merinid dynasty succeeded in recapturing the Rock from the Castilians in 1333 and replaced the earlier Almohad citadel with the present building before c.1370-1, when it was first described in Arab-Iberian sources (Fa & Finlayson 2006: 11-13).

period 1066 to 1200 the new castle-building dynastic feudal elite also waged private wars amongst themselves, staged rebellions against the crown or rallied in support of the crown to suppress such rebellions. Castles have long been associated with warfare, but when dealing with an archaeological feature associated with warfare we must temper Einstein's simplicity with an equally famous warning:

'Everything in war is very simple, but the simplest thing is difficult' (Clausewitz, Howard and Paret 1993: 138).

For example, unlike other forms of human activity, war can produce a large quantity of archaeology and demonstrate considerable change in material culture over short periods of time. However, material culture on its own is a poor medium through which to study warfare in the past because, as Napoleon noted in 1808:

'A la guerre, les trois quarts sont des affaires morales, la balance des forces réelles n'est que pour un autre quart'.

This is traditionally translated as: 'In war the moral is to the physical, as three is to one'. If Napoleon was correct, the archaeological record represents no more than a quarter of the evidence for conflict and suggests that non-material factors have a disproportionate influence on warfare. For example, more battles in the past have been determined due to confusion, cold, hunger and fear, which leave no trace in the archaeological record, than any differences in the material cultures of the combatants. The archaeology of warfare is currently conceptually weak, reliant on partial evidence or inappropriate ethnographic parallels. Whereas this thesis is necessarily predicated on a realist model to account for the non-material factors that are absent from the archaeological record.

The assumptions underlying current post-processual models have led to a number of unreliable conclusions by archaeologists and anthropologists about medieval warfare and castles in the 11th and 12th centuries. For example, Eales (1990: 49-78) has argued that most English castles must either have been built in the immediate aftermath of the Norman conquest or as adulterine castles during the civil wars c.1136-53. Coulson (1979: 73-90; 1992: 51-107; 1994a: 86-137; 1994b: 67-92; 1994c: 65-86; 1996: 171-208; 2001: 69-95) has argued that most discrete earth and timber castles were 'fieldworks', 'fortlets' or 'adulterine' castles with only a short existence and were therefore not 'proper' castles, because they were not licensed by the crown. Liddiard (2000a: 3; 2000b: 6-9) has argued that the most defensive point in the landscape is the highest point in the topography.

Some studies have concentrated on the use of space within and the layout of stone-built castles (Dixon 1992: 85-107; 1996: 47-56; 2000: 121-139; Dixon and Lott 1993: 93-101; Dixon and

Marshall 1993: 16-23; 1994: 410-32; 2002: 235-43; Marshall 1998: 110-25; 2002a: 27-36; 2002b: 203-14) whilst others have developed the 'landscape-of-lordship' approach on a larger scale (Austin 1984: 69-81; Creighton 1997: 21-36; 2000: 105-19; 2002; 2004: 25-36; Creighton and Higham 2004: 5-18; Hughes 1989: 27-60; Liddiard 2000b; 2005; Marten-Holden 2001: 46-52). As a result, these approaches are predicated upon the study of castles with stone construction or long operational lives.

This thesis argues that the multi-disciplinary data of the twenty-seven 11th - and 12th-century Suffolk castles considered here question these assumptions. It argues that this survey of Suffolk castles demonstrates that the catalysts and constraints operating on their location, form and function, were complex and wide-ranging.

Chapter two demonstrates that the majority of castles in Suffolk are 11th- or 12th-century in date but that few castles survived beyond c.1200 or were built after that date. Those that did survive beyond c.1200 are characterised as royal or baronial *caput* castles, which were rebuilt from their original earth and timber forms into stone castles by c.1300. However, the majority of castles in Suffolk were originally completely or overwhelmingly earth and timber structures and were sub-baronial in that they were not built as a royal or baronial *caput* castle. The survey of six castle sites for this dissertation focuses on the more common 11th- or 12th-century sub-baronial, discrete earth and timber castles found in Suffolk. Chapter two also examines and critiques each of the current models in castle-studies before rejecting them for a modified *Annales* model.

Following the *Annales* model, Chapter three identifies the constraints of the *longue durée*, identified as the environmental factors, defined as the climate, topography, geology, hydrology and timber supply in the vicinity of the castle and in Suffolk. This is linked into the central or societal level of the *Annales* model by further discussion of the structural, social and cultural aspects of woodland management and timber supply, earthwork construction, timber-framed building techniques and the contemporaneous carpentry technology.

Chapter four continues to examine the data at the societal level of the *Annales* model by a further discussion of the structural, social and cultural influences of the Abbey of St Edmund on Suffolk in the 11th and 12th century. This is because the Abbey was the county's largest feudal lordship, which provided forty knights to the crown, and these Knights of St Edmunds drew many of the baronial and sub-baronial dynasties in the county into a feudal relationship with the Abbot. The Abbot was also viceroy in the eight and half hundreds of the Liberty of St Edmund, which covered 40% of Suffolk. The Abbey was the largest religious foundation in the region, the site of numerous local saints' shrines and dominated by the cult of the royal martyr St

Edmund. The Benedictine community also created a new planned town and an Abbey church as well as gaining important trade and other concessions from the crown between 1066 and 1200 to secure Bury St Edmund's pre-eminent economic position. Finally, the Abbey played a significant local role as the royal authority and a major feudal landowner in its own right in determining when and where castles were built within the Liberty of St Edmund.

Chapter five examines the *événement* level of the *Annales* model by focussing upon three of the six surveyed castle earthworks. This identifies the environmental factors influencing each castle's location, establishes the Anglo-Saxon antecedents of the Domesday manor and its development until 1200, identifies the Anglo-Norman dynasty in the 11th and 12th centuries as well as the probable castle-building agent and provides a political context for the construction of the castles.

Chapter six draws together the data from the different levels of the *Annales* model and appraises the evidence for the twenty-seven 11th- and 12th-century castles, using the more common form represented by the six surveyed castles to illustrate key points. A new model is offered, along with a more nuanced definition of a castle and a comprehensive assessment of the conflicting demands of the catalysts and constraints operating upon the construction of castles in Suffolk.

The evidence of the *longue durée* stresses environmental factors. It specifically identifies water-supply as restricted in Suffolk and that this influences the location in the topography and the landscape as well as the geology upon which the castle is built. Beyond its hydrological character, geology was identified as additionally important, as there is little building stone available in Suffolk, which means that the majority of Suffolk castles are earth and timber. Therefore, the suitability of the geology for raising earthworks and constructing wet moats becomes especially important.

The evidence of the societal level of the *Annales* model is more complex and can be divided for clarity into structural, social and cultural constraints.

Structural evidence demonstrates that Suffolk castles were concentrated in those environments or 'pays' best fitted for castle building in terms of the combination of their climate, topography, geology, hydrology, Domesday timber-supply and propensity for ponds. By contrast, castles in 11th- and 12th-century Suffolk were evenly distributed across the three administrative districts of the Liberties of St Edmund and St Æthelfryth and geldable Suffolk. However, the period saw the introduction of several sets of new legislation under Henry I and Henry II, each of which sought to extend the crown's control over castle-building, and this parallels the wider

centralising trajectory of the English royal government between 1066 and 1200. Before c.1118 the legislation governing castle-building was customary and castle owners were drawn from a wider range of the new Anglo-Norman elite, but by c.1200 castle-building was highly restricted and castles in Suffolk were limited to royal or baronial *caput* examples.

Social evidence demonstrates that castles were restricted to members of the new secular elite and built as royal, baronial *caput* or sub-baronial castles, but that only royal or baronial *caput* castles remain operational after c.1200. The high levels and density of the Domesday populations in villis where castles are evidenced between 1066 and 1086 demonstrate that in a subsistence rural economy these locations could maintain such high densities of population. These villis are superior locations in the environment of Suffolk, are interpreted as advantageous in terms of environmental resources and were as a result frequently already significant locations in the late Anglo-Saxon landscape before castles were constructed.

Cultural evidence demonstrates that the new elite was a military elite, which possessed a monopoly on warfare that it jealously guarded from interlopers. This restricted active participation in warfare during the 11th and 12th centuries to a minority of the population. It organised itself on a 'gang' model that waged war for loot, plunder and ransom, which was redistributed among feudal followers, thereby reinforcing the feudal relationship.

These feudal gangs were led by leaders who headed dynasties, which were subject to patrilineal inheritance. As a result of the dangers inherent in a dynastic head participating in warfare, battles were avoided, due to their unpredictable but decisive nature, in favour of siege warfare and raiding. To further mitigate the danger of warfare, a series of chivalric conventions were developed by the elite in the middle ages in order to ensure that they were not killed outright and safeguarded the chances of dynastic heads producing legitimate male heirs.

The threat of violence by this elite was such that St Edmund's Abbey at the end of the 11th century introduced a new vengeance *topos* into the hagiography of St Edmund. Herman's biography initiated a *mentalité* in which St Edmund was increasingly portrayed as a belligerent and vengeful saint who protected his property. This new *topos* appeared at the time when the massive new Abbey complex was under construction and the new elite was establishing itself in the county and building its castles.

Furthermore, using the Knights of St Edmund as a sample, it was noted that baronial dynasties were more successful than sub-baronial dynasties in producing numerous generations of

legitimate male off-spring, and consequently their dynastic pedigrees, like their castles, survived well beyond c.1200.

Technological change in the 11th and 12th century further influenced castle-building, including the introduction and development of effective siege-engines by the end of the 12th century. Further developments in building, carpentry and water-supply technologies saw the introduction of ground-sill rather than earth fast construction, the simple scarf joint and the use of more than one method of water-supply to provide for the needs of the castle's garrison and inhabitants and their animals.

The *événement* level of the *Annales* model identifies the individual agents responsible for building particular castles and emphasises the unique political and historical contexts in which each castle in Suffolk was built between 1066 and 1200.

The idea of what constituted a castle clearly changed during the period 1066 to 1200 as technology, warfare, legislation and society changed. Furthermore, a typical 12th-century Suffolk castle is radically different from Wingfield and Mettingham castles, founded in the 14th century (Appendices 1.30-1). The fact that these often wooded and over-grown earthworks represent sub-baronial, discrete short-lived, earth and timber castles and were certainly more representative of the normative Suffolk castle than the Keep at Gibraltar barracks, Bury St Edmunds.

Chapter 2.0: Castle Studies.

2.1: Introduction

The Norman Conquest and its aftermath has long been considered an important period when examining social, cultural and structural change in English history. A key debate has focussed on issues of the continuity of Anglo-Saxon society and culture against claims that a fundamental change was wrought by the new Anglo-Norman elite.

This new elite introduced an entirely new structure, the castle, into the Anglo-Saxon landscape that survive into the present as standing archaeology or earthworks. Castle building placed substantial demands on the local environment and labour resources, as well as represented an enormous investment by their agents. For example, Orford castle (Figure 9) constructed c.1165 cost £1400 at a time when the crown's estimated income from England was £20 000 per annum (McNeill 1992: 41-2).

It is the contention of this thesis that without a clear and explicit theoretical position it is impossible to address the key questions about English castles. These include: What is the definition of a castle, When were castles built in the past, Who built them and why, Where were castles built, Why did they build the type of castle that they did and How did castles change?

This chapter has a number of objectives:

- To establish the research questions to be explored in the thesis and the theoretical framework that informs the case selection of Suffolk castles.
- To familiarise the reader with the key issues current in the study of castles and establish a research context for this study.
- To set out the current principal theoretical models for the castle in England and identify why aspects are problematic.
- To locate castle studies within a coherent theoretical framework.

2.2: Defining castles

It is a conceptual weakness of castle studies that there is no agreed definition of what constitutes a castle. Whilst everyone has a clear idea of what a castle looks like, the establishment of a consensus on a definition of this, apparently simple and common, archaeological feature has proved remarkably difficult. This terminological and conceptual chaos is paradoxical because castles have been subject to an intensive level of study, have probably never been more popular, and remain one of the most straightforward kinds of archaeological sites with which the public engages.

The theoretical position, known in history as post-modernism (LaCapra 1985; Somekawa and Smith 1988: 149-61; Ankersmit 1989: 137-53; Rosenau 1992) and in archaeology as post-processualism (Hodder 1986; Earle and Preucel 1987: 501-38; Shanks and Tilley 1987; Watson and Fotiadis 1990: 613-29; Watson 1990; Johnson 2002), has responded by simply abandoning the quest for a single definition, or meta-narrative, in favour of a negotiated definition created by numerous local narratives. However, it is the contention of this thesis that it is academically unsatisfying to abjure any attempt at objectivity in castle studies, as that leaves nothing more than a multiplicity of competing 'narratives' rather than a testable model (Himmelfarbe 1994: 131-192; Eagleton 1996; 2003; Evans 2000). Creating testable models was the original purpose of archaeological theory, which along with data is used to generate results and conclusions (Clarke 1968; 1973: 6-18). It is noted that there has long been a theoretically coherent, empirical and statistically rigorous tradition in medieval studies (Wellدون Finn 1967; Darby 1971).

An example of the current conceptual chaos is the persistence of the old definition of a castle as a 'defensible lordly residence' (d'Auvergne 1907: 1; Armitage 1912: 6 & 62; Davison 1967c: 39-48; Davison 1969a: 37-47; Brown 1969a: 1-14; 1969b: 131-48; Parsons 1978; Hollister 1998: 140-1). Saunders (1977: 1-10) was the first to point out that this definition is inadequate, which has been demonstrated by the identification of Anglo-Saxon 'defensible lordly residences' called OE *burhgeatas* (Ekwall: 1947: 71; Whitelock 1955: 431-2; Williams 1992: 93-9; Renn 1994: 177-98; Coulson 1996: 172; Watts 2004: 99-100). It should be noted that the Domesday place-name Burgate occurs in Suffolk three times, in Colneis (*buregata*), Hartismere (*Burgatā*) and Plomesgate (*Burgesgata*) hundreds (Rumble 1986: 7,77;108. 35,5;7. 6,144.). Therefore, this place-name occurs more frequently in the Suffolk Little Domesday Book than in any other county in England c.1086 (Dodgson and Palmer 1992: 41; Rumble 1986: 7,77;108. 35,5;7. 6,144.).

Recent late Anglo-Saxon settlement studies reveal that settlements and manors were frequently surrounded by defined boundaries in the form of ditched enclosures (Reynolds 2001: 98-136) and examples of Anglo-Saxon 'defensible lordly residences' have been excavated in the east of England, at Sulgrave, Goltho, Stamford, Exning, Bramford and Tasburgh (Davison 1977: 105-114; Beresford 1987; Mahany 1976: 223-245; Martin 1975: 24-38; Caruth 1995: 40-1; Rogerson and Lawson 199: 31-58). The evidence of Anglo-Saxon 'defensible lordly residences' has led some to suggest that royal or manorial churches adjacent to, underlying, or within castles, are sometimes archaeological evidence of late Anglo-Saxon lordship centres (Mahany and Roffe 1982: 199-219; Drage 1987: 119). For example, at Clare, Framlingham, Freckenham, Haughley and Lidgate castles (Appendices 1.5; 10-11; 15 & 19).

Furthermore, the medieval moated-sites that occur from the 12th century and evidenced all over central Suffolk, could also be described as 'defensible lordly residences' (Jean le Patourel 1979; Martin 1999e: 60-1 & 199).

It is argued here that 'defensible' is a relative concept and linked to an anticipated level of threat. Late Anglo-Saxon lordship complex and later medieval moated-sites were not designed to withstand a siege. They were designed to prevent their owners being murdered in their beds by local political rivals or their own tenants. By contrast, a castle has a different scale of defensibility, being designed to withstand a siege. This required any potential attacker to: gain it by guile, mobilise overwhelming numbers to successfully storm it, required possession of a siege-train with the necessary technicians and technology to reduce it, or control of sufficient manpower, logistical and financial resources to maintain a close siege until the garrison was forced to surrender.

Liddiard (2000b: 6-9) points out that contemporaneous documents report that several different buildings were turned into fortifications in the 11th and 12th centuries, therefore, argues the role of fortification is not exclusive to castles. He goes on to claim that many castles of Norfolk could not have been military in purpose, because they are not constructed in the most defensible location in the landscape, which he defined as is the highest point in their local topography.

In 1138 Baldwin de Redvers (d. c.1155) rebelled against King Stephen. Baldwin held Exeter castle against a royal siege over a hot summer, which saw his castle well to dry-up, which forced Baldwin to come to terms and surrender Exeter castle in return for his liberty. He then made his way to his second castle at Carisbrooke on the Isle of Wight, where he again defied King Stephen, but again the castle's well failed when royalist force laid siege to it. As a result,

Baldwin was forced to flee into exile having lost both his castles in the course of a single campaign season (Bradbury 1992:79; Keats-Rohan 2002: 658).

Any fortification designed to be besieged must possess a water supply or its garrison will be forced to capitulate within three days, which is the maximum time that a human can go without water. Contemporary military manuals like Vegetius' *De Re Militari* c.400 stressed the importance of a water-supply in fortress-building, noting the need to cut supply to a fortress laid under siege and need for a besieged force to guarantee its own supply. The first reference to the medieval use of Vegetius is c.1151 in the *Historia Gaufredi Ducis*, which recorded that Geoffrey (V) of Anjou referred to a copy and Abbot Suger of St Denis was also known to have read a copy (Halphern and Poupardin 1913: 218; Bradbury 1992: 3; Prestwich 1992: 186; Milner 1993: 116 & 119). However, water is never found in the highest point of the topography in Suffolk (Woodland 1946: 3 & 10).

Environmental conditions mean water-supply in a dry county like Suffolk was a constraint on all human activity until the introduction of mains-supply after World War II and before this date domestic water-supply for rural Suffolk was dependent upon a limited number of artesian or land springs, meres, watercourses, wells and cisterns. Cisterns could be stone, timber or clay-lined and were used to collect rainwater or run-off from buildings. Furthermore, frequently ponds, moats and lakes were also exploited as reservoirs to store water (Woodland 1946: 3; Neaverson 1947; Ruckley 1990: 14-26; Burger 2001).

It is argued here and later that there is a long established relationship between castles and conflict. Therefore, the definition of a Suffolk castle offered here is functional: it is taken to be a specialist building constructed by members of a new elite based upon a continental model, which was designed to withstand siege by a real or potential enemy, and may or may not have been the principal residence of a lord and his family or the lordship centre of his fief. Using this definition it is possible to identify thirty-one castle sites in Suffolk (Appendices 1.1-31). Of these thirty-one, twenty-seven are dated before c.1200 (Appendices 1.1-27, Map 2.1). Moreover, the Domesday Book entry for their respective villis provides an important base-line of information about the location and settlement where castles were built (Table 2.1², Appendix 2.0).

² Orford was part of Sudbourne manor and Red castle part of Thetford in 1086 and therefore the Domesday data is excluded from Table 2.1 (Rumble 1986: 6,143. 8,25. 21,37 & n. 21,38.).

2.3: The research context

It is the contention of this thesis that much important work has already been carried out by earlier generations of scholars. Unlike many post-modernist claims, we can test the claims made by those who have studied castles before us and this thesis is only possible because of the work of earlier scholars. In other words our knowledge of the past is cumulative, verifiable and dependant on others. The fact that scholars sometimes got it wrong or did not have an explicit theoretical framework does not mean that all their evidence is wrong or that their efforts were in vain, but a failure to acknowledge the debt we owe our predecessors' research is not merely churlish but in practice condemns us to constantly reinvent the subject.

The lack of a clear theoretical framework in castle studies has been highlighted by the first fully theorised explicitly post-processual critique (Johnson 2002), which joins a growing number of more theoretically informed works on castles (Coulson 1979: 73-92; Creighton 2002; Liddiard 2000a: 37-46; 2000b; 2005). These new studies are underpinned by novel, sophisticated and often competing theoretical assumptions. Therefore, castle studies have been catapulted from the theoretical backwater to the vanguard of post-processualism in a matter of a few years, resulting in a confusing situation that has left much of the castle-studies community talking across each other amidst these theoretical innovations.

A more empirically based framework for castle studies has now become urgent:

- To escape from theoretical abstractions and to establish some criteria by which we can test competing theoretical claims.
- To establish a theoretical context in which different castles can be compared with one another, without an elaboration of standards of proof explicitly linking of theoretical to empirical criteria, castle studies cannot progress beyond its current impasse.
- To refocus the debate upon the phenomena of castles in order to identify their chronological occurrence, normative form, physical distribution and relationship to their environments.

2.4: The current principal theoretical models for English castles

There already exists a number of useful discussions on the history and development of castle studies and current archaeological models about castles (Counihan 1988: 77-85; Coulson 1994b:

67-92; 1996: 171-208; Johnson 2002; Gerrard 2003: 64-5, 109-110, 117-8, 145-7, 191-3; Speight 2004: 1-32). However, all of these are overwhelmingly biased towards studies of stone castles, despite Higham and Barker (2004: 17 & 34-5) having already noted that earth and timber are the most common and persistent fabrics used for fortifications, in terms of temporal, cultural and geographic distributions world-wide. They also claim that the majority of English castles were earth and timber and certainly in this form they are the most frequently found in Suffolk (Table 2.2; Chart 2.1). With this in mind, it is possible to identify five alternative but current explanations to account for castles:

2.4.1: The social control model

Castles were essentially instruments of social control imposed by the new foreign elite on a restive native English population in the 11th century (Armitage 1912; Brown 1976; Eales 1990: 49-78).

2.4.2: The processual social evolutionary model

Castles were more sophisticated than crude instruments of social control, operating as both social and political centres for the new Anglo-Norman elite. Castles reflected the new social order, ushered in by the conquest and subsequently developed, corresponding to wider changes in medieval society (Davison 1967c: 202-11; 1969a: 37-47; Saunders 1977: 1-10; Thompson 1991; Pounds 1994).

2.4.3: The symbolic-structuralist model

Castles were the symbolic central element in a consciously structured 'landscape of Lordship', which publicly demonstrated the status of the new elite (Austin 1984: 69-81; Coulson 1979: 73-90; 1992: 51-107; 1994a: 86-137; 1994b: 67-92; 1994c: 65-86; 1996: 171-208; 2001: 69-95; Creighton 1997: 21-36; 2000: 105-19; 2002; 2004: 25-36; Creighton and Higham 2004: 5-18; Hughes 1989: 27-60; Liddiard 2000b; 2005; Marten- Holden 2001: 46-52) and which carried over from the structured architecture expressed in the castle itself (Dixon 1992: 85-107; 1996: 47-56; 2000: 121-139; Dixon and Lott 1993: 93-101; Dixon and Marshall 1993: 16-23; 1994: 410-32; 2002: 235-43; Marshall 1998: 110-25; 2002a: 27-36; 2002b: 203-14).

2.4.4: The post-modernist/post-processual model

Castles have a mediated and negotiated meaning produced by those building and living in them. This meaning is in part produced in subtle and indirect ways:

‘through historical associations, unintended consequences of events, the rhythms of time. Castles build up stories around them like layers or blankets, till the whole package of meanings and associations cannot be readily controlled by any one force. Consequently, the request for “proof” of what the castle “really meant” is misguided. The meaning of the castle has shattered into a thousand fragments, of which we can only retrieve a few’ (Johnson 2002: 181-182).

2.4.5: The geological model

With the exception of Neaverson’s (1947) and Spurgeon’s (1987: 23-50) work on castles in Wales, curiously few studies have analysed the relationship between the location of castles and their underlying geology. However, an important paper by English (2002: 45-51) has explored the link between Anglo-Saxon ‘worths’ and their occurrence on a geology of glacial sands and gravels. The most important current exponent of the relationship between castles and geology is Halsall (2000: 3-31), who argues that castles are best understood by means of modern military analysis but are ultimately determined and constrained by geological factors. Halsall (2000: 3) claims that the ‘siting of fortresses is dictated by strategic political and economic considerations, the defensibility and the availability of a portable water supply all to some extent a function of regional and/or local geology,’ while ‘other facets of the local geology, such as the topography of the site, the physical properties of the substrate and the nature and availability of building materials in the area, further constrain designs and construction’.

2.5: Why these current theoretical models are inadequate

Each of these models can be challenged, in turn, by the following observations:

2.5.1: A critique of the social control model

The model can be challenged in two ways:

2.5.1.a: The location of castles in relation to the Anglo-Saxon population

The location of castles does not mirror the concentrations of Domesday populations. The greatest concentrations of Anglo-Saxon population in Suffolk *c.*1086 were the urban centres represented by the boroughs of Beccles, Bury St Edmunds, Clare, Dunwich, Eye, Ipswich and Sudbury (Map 2.2). Whereas Ipswich, Clare and Eye evidence castles in the 11th and 12th centuries, the other Anglo-Saxon *burhs* do not. Furthermore, Risbridge, Hartismere and Babergh hundreds have the largest number of castles evidenced in any Suffolk hundreds, but these three do not evidence the highest density of Domesday population (Darby 1971: 173; Maps 2.3-4). Therefore castles cannot simply be explained as instruments of social control.

2.5.1.b: Chronological distribution of castles

Only two Suffolk castles, Eye *c.*1086 and Clare *c.*1090, are recorded in contemporaneous documentary sources as pre-1100 in date (Rumble 1986: 18,1.; Renn 1973: 144), while only three castles are evidenced after 1200: Dunwich *c.*1216-7, Mettingham 1342 and Wingfield 1385 (Martin 1999d: 58-9, 198). Although it should be noted that Richard de Clare was granted a licence to crenellate *c.*1259 at Southwold Manor, there is no evidence that any castle was ever built (King 1983: 460). There is archaeological or historical evidence of at least twenty-seven castles of 11th- or 12th-century date in Suffolk, of which at least fourteen appear to be post-1100 in origin, including Bungay, Burgh, Desning, Finningham, Framlingham, Great Ashfield, Groton, Lindsey, Milden, Nayland, Orford, Red Castle in Thetford and Walton. The chronological distribution of castles in Suffolk shown in Table 2.3 and Chart 2.2, undermines Eales' (1990: 49-78) claim that castles were imposed immediately after the Norman Conquest as a means of social control, or in the case of Suffolk the annexation and occupation of the Earldom of East Anglia that followed the revolt of *c.*1070-5 (Swanton 1996: 210-212).

Eales' (1990: 49-78) argument is built upon the assumption that the technology of castle-building was available to all levels of the new Anglo-Norman elite post-Conquest and that they immediately set about raising castles on their newly acquired properties. Contradicting this Rogers (1992: 234-248) has suggested that castle-building was a specialised skill and that access to new military technologies and construction techniques were restricted throughout the medieval period.

2.5.2: A critique of the processual social evolutionary model

Most social evolutionary approaches unconsciously adopt a view of evolution similar to that suggested by the English positivist philosopher Herbert Spencer (1820-1903), who followed a Lamarckian model of evolution, in which evolution equals constant directed progress acting equally upon human beings, culture and society.

By contrast, the neo-processual model in archaeology is predicated upon Darwin's concept of constant and random change, where species succeed or fail depending on their ability to adapt to their environment (Boyd and Richerson 1985; Durham 1991; Shennan 1993;1997; Layton 2005). Neo-processual archaeological models explicitly rejects Spencer's 'heretical' view of evolutionary change and instead champions two new models that challenge the assumptions underpinning social evolutionary models:

- a. Punctuated equilibrium model, which argues that biological evolution is slow, constant and random. By contrast environmental, cultural and technological evolution is characterised by long periods of stasis or random drift, like biological evolution, but periodically subject to rapid bursts of sometimes violent change over a short period of time, when a tipping point is reached as the result of these constant virtually imperceptible micro-changes (Gould and Eldredge 1977: 115-151; Gould 1980: 119-130; Gould and Eldredge 1993: 223-7). It has been argued that the implication of this for archaeology is that a lot of material culture can be created over a very short period of time and that this is related to a specific context or event (Shennan 1993: 53-9). This dissertation argues that punctuated equilibrium better describes the development of castles in Suffolk.

- b. Dual inheritance model, which argues that human beings are subject to two types of evolutionary process operating at chronologically different scales of mode and tempo:
 1. Biological evolution, informs a human being's genetic individual propensity.
 2. Cultural evolution socialises human beings into the culture of the society of which they are a member (Boyd and Richerson 1985; Shennan 1997: 1-6). It will be argued that both processes were operating upon the castle-building agents and their dynasties in the 11th and 12th centuries.

The social evolutionary model of castles is challenged by the chronological distribution of Suffolk castles. It has been established above that a large number of castles had their origin and reached their maximum number during the 12th century. However, it is argued here that few castles in Suffolk survived into the 13th century because of a series of campaigns launched by King Stephen and later Henry II in *c.*1135-53, 1157 and *c.*1173-6 to suppress castles (Madden 1866: 307; Stubbs 1868: 215; 1872: 182; 1879: 161; Luard 1874: 214; Howlett 1884: 102; 1889: 192-3).

Those castles that survive into the 13th century, at Bungay, Clare, Eye, Framlingham, Haughley, Lidgate and Orford (Appendices 1.2; 5; 8; 10; 15; 18 & 23), were either royal castles or castles belonging to the major baronies in the county (Map 2.5). Therefore, the majority of Suffolk castles did not have a long operational life before being destroyed, slighted, suppressed by the crown, made redundant as military technology changed, failed due to technology of its construction, reduced in status to manorial centres or passing to a new dynastic ownership that did not require a castle. As a result, Suffolk castles are frequently a short-term phenomenon, restricted to a narrow chronological window and do not survive long enough to evolve along the lines suggested by the social evolutionary model. Those castles that demonstrate long-term

survival and considerable change over time must be seen as atypical examples of Suffolk castles.

2.5.3: A critique of the symbolic structuralist model

Symbolic structuralism has recently generated a number of influential claims about British castles and their landscapes. This analytical approach gives special emphasis to 'aesthetic' or 'landscape of lordship' features, for example, deer parks, rabbit warrens, formal gardens or planned landscapes (Austin 1984: 69-81; Liddiard 2000b; 2005, Creighton 2002; Creighton and Higham 2004: 5-18). These approaches especially relevant to claims made by Coulson, Wareham and Liddiard examined and critiqued below (Coulson 1994b: 65-92; Wareham 1994; Liddiard 2000a: 37-46; 2003b: 4-23).

2.5.3.a: The assumption that, if not immediately post-Conquest in date, castles are 'anarchy castles' (c.1135 to 1153) and are therefore little more than fieldworks.

Coulson (1994b: 65-92) claimed that the small castle-earthworks, commonly referred to as 'anarchy' or 'adulterine' castles (c.1135 to 1153) should not be regarded as 'proper' castles and are only of interest to the military historian. Coulson cites South Mimms castle as an example of what, in his opinion, should not be regarded as proper castles but 'fortlets' or 'fieldworks'. This is despite acknowledging that there is no contemporaneous evidence for such a conceptual distinction and that the term 'adulterine' castle only occurs in French in pre-13th century sources (Coulson 1994b: 75-6).

Coulson (1994b: 70 & 91) argued that:

'Most regrettably no medieval equivalent existed of the Victorian engineer's distinction between "permanent fortification" and "fieldwork", which weaker forces relied on' and, that 'Fieldworks once abandoned quickly perished, leaving faint traces'.

This suggests that many examples of Suffolk earthworks referred to in documentary sources as castles and identified as such by the County Archaeology Unit (Martin 1999d: 58-9, 196) do not qualify, according to Coulson, as meriting study. However, Coulson's argument is challenged by Higham's and Barker's (1992: Preface) claim that:

'Timber castles were simply castles: not a 'type' of castle, but castles of a particular technology built by all ranks of castle-builders from kings down to lords of rural manors'.

Coulson's model is posited on a limited amount of documentary evidence from elite or ecclesiastical sources. These are highly legalistic, frequently not even English and were written

in a language – Latin - which the vast majority of the contemporary population, including the majority of the noble and knightly classes, could neither read nor understand.

Coulson's ontological assumption that, by studying the symbolism in (often later) stone castles and their landscapes, it is possible to make claims about 11th- and 12th-century castles in general is questionable (Coulson 1979: 73-90; 1996: 171-208; 2001: 69-95). This has implications for his epistemological assumptions of what constitutes evidence for a castle. His exclusion of certain earthworks remains as castles, because they have a short occupation, is a case in point and is contradicted by the historical evidence that such features were considered castles in the 11th and 12th centuries. For example, according to Wace c.1160-70, the first castle constructed in England was a pre-fabricated timber castle reassembled on the landing beach at Pevensey:

'Then they threw down from the ships and dragged on land the wood which the Count of Eu had brought there, all pierced and trimmed. They had brought all the trimmed pegs in great barrels. Before evening, they built a small castle with it and made a ditch around it, creating a great fortress there' (quoted Higham and Barker 1992: 144; Burgess and van Houts 2004: 164-5).

Coulson's model is contradicted by further evidence relating to the majority of castles found in England that 'up to the thirteenth century, and sometimes beyond, large numbers of castles, perhaps even a majority, were not built of stone, but of timber, clay, cob, wattle and daub, thatch and shingle,' which Higham and Barker (2004: 17) define as 'timber-castles'.

It has been argued that the majority of castles in Suffolk were originally and overwhelmingly earth and timber rather than stone-built (Table 2.2). However, the different fabric and technology used in stone and in earth and timber castles influenced their size and morphology, which has profound, practical and theoretical implications for castle studies.

2.5.3.b: The 'revisionist' model of warfare in East Anglia c.1135-53

The traditional interpretation of the period being one dominated by warfare has been recently challenged by a revisionist interpretation. Wareham (1994: 237) plays down the evidence for the intensity of the civil war in Suffolk and claims that:

'the image provided by the Anglo-Saxon Chronicle of a country dying from the effects of eighteen long winters should not be applied to the situation in Suffolk, where it was only royal resources which were depleted. The only other evidence for the misappropriation of wealth is the five knights' fees in Suffolk which Earl Hugh Bigod seized from William de Raimes'.

Bigod had seized control of all five knights' fees in Suffolk belonging to Roger II (not William as Wareham claims) de Raimes, the Baron of Rayne in Essex (Hall 1896a: 354; Sanders 1960: 139-140; Keats-Rohan 2002: 654). These knights' fees were probably based upon the



Domesday fee of Roger I de Raimes, whose principal manors were at Bures in Babergh hundred, Stonham Aspal and Bricett in Bosmere hundred and Coddensham and Newton in Claydon hundred (Rumble 1986: 38,1-27.; Keats-Rohan 1999: 406-7).

Wareham (1994: 237-8) notes that the cost of restocking the royal *demesne* in the Pipe Rolls for 1155-6 for Suffolk is £75, representing 39% of the shire's royal *demesne* income of £193 being reinvested, whereas in Norfolk only £4 was spent restocking the royal *demesne* in the same period, while he notes that only four English counties spent a greater percentage of their royal *demesne* in restocking during the same period. However, Wareham fails to appreciate the full significance of his data. At Domesday Suffolk had 122 individual entries for royal *demesne* in the county and Norfolk had 241, so there were twice as many holdings in the royal *demesne* in Norfolk as in Suffolk in 1086 (Brown 1984: 1,1-241.; Rumble 1986: 1,1-122.). Therefore, the civil-war disproportionately cost the royal *demesne* in Suffolk compared with Norfolk.

In Suffolk the civil-wars included rebellions c.1140-4 by Bishop Nigel and Geoffrey de Mandeville (Madden 1866: 275; Stubbs 1868: 206-7; Stubbs 1872: 164 & 171-2; Luard 1874: 177-8; Potter and Davis 1976: 166-7; Giles 1994: 495; Keats-Rohan 2002: 566, 828-9) plus the depredation of St Edmund's property by Eustace de Blois c.1150-4 (Arnold 1890: 357-8; Potter and Davis 1976: 238; Callahan 1976: 113-116; Keats-Rohan 2002: 944). Gervase claimed that Eustace de Blois ravaged the Abbey of St Edmund's lands from the 10th August 1150, after the bishops had refused to anoint him as future King (Stubbs 1879: 155). Matthew Paris reports that Eustace died on 2nd February 1151 (Stubbs 1868: 213; Stubbs 1872: 180), although Roger of Hoveden dated his death to c.1154 and Keats-Rohan to 1153 (Stubbs 1868: 215; Keats-Rohan 2002: 944). Eustace is recorded as a noted oppressor of St Edmund's Abbey and his death at Cambridge castle was attributed to the divine vengeance of St Edmund (Howlett 1889: 176, Arnold 1890: 357-8; 1896: 326; Potter and Davis 1976: 238; Callahan 1976: 113-116).

It is argued here that Wareham has been selective and ignored the evidence for conflict in Suffolk c.1139-53. He fails to mention that St Edmund's Abbey lost Coney Weston in Bradmere and Blackborne hundred and Chepenhall in Fressingfield in Bishops hundred during the civil-war (Douglas 1932: 94-5) and ignores additional attacks on the abbey's vill of Semer in Cosford hundred and Groton in Babergh double hundred. He fails to note the evidence that the abbey set up Adam de Cockfield as a military governor, first in Thedwestry hundred and later in Cosford hundred, where he had his castle at Lindsey (Douglas 1932: 123-4; Greenway and Sayers 1998: 122-123). Wareham fails to appreciate that between 1135 and 1146 King Stephen gave permission for the knights of St Edmund's Abbey to perform their military service at Bury St Edmunds rather than at Norwich castle (Douglas 1932: 83-4; Figure 7) and that in

1148 he appointed his former personal tutor Ording, described by his own abbey's chroniclers as a '*homo illiteratus*', to the abbacy of St Edmund's (Arnold 1896: xxxvi & 216). This is also the approximate date when the new post-Conquest town of Bury St Edmunds appears to gain its first urban defences (West 1973a: 17-24). Furthermore, that Archbishop Theobald issued a charter c.1139-50 to all parties threatening an anathema and ordering that pilgrims should be allowed to travel unimpeded to the shrine of St Edmund (Douglas 1932: 160).

The contemporary and national significance of the chief rebel Hugh Bigod was demonstrated when Theobald, the exiled Archbishop of Canterbury, landed at Bigod's port of Gosford on the Deben in 1147 (Appendix 16.1.4), and who along with the bishops of Norwich, London and Chichester, was received as a guest of Hugh at Framlingham castle (Stubbs 1879: 134-6; Davis 1990: 78-9, 104-5; Appendix 1.10, Figure 6). Furthermore, in 1166 Hugh Bigod was reported as still holding the 2½ knights' fees of Hubert de Bauvent, which belonged to Hubert II de Ria's (d. c.1177) Barony of Hockering in Norfolk (Hall 1896a: 400; Sanders 1960: 53-4; Keats-Rohan 2002: 661).

Additional evidence of civil-war damage ignored by Wareham is the case of the Blund or Blundus family's *demesne* lands. According to the *Carta Baronium* c.1166 William Blundus, an official of the honour of Eye that had formed part of Stephen of Blois' personal fief from c.1113 until 1135, reported that the family had held twelve knights' fees before the war but had lost five fees in Suffolk during the civil war (Hall 1896a: 408-9; Sanders 1960: 3-4; Keats-Rohan 2002: 17). Looking at the Blundus fief at Domesday, these lost knights' fees are probably associated with their larger manorial holdings of Great Ashfield, Ixworth, Walsham le Willow, Wyken and Langham (Rumble 1986: 66,1-4;6.). Moreover, there is further archaeological evidenced of the apparent destruction and abandonment of their incomplete earthwork at Great Ashfield, where evidence of burning and pottery was found on the top of the motte during an unpublished excavation in the 1950s (NSMR Suffolk 175; Appendix 1.12, Figure 12). This was contemporaneous with the alleged destruction of the Blundus' dynastic Priory of St Mary at Ixworth (Dugdale 1846: vi 311; Cox 1907: 105-7).

Furthermore, Wareham fails to appreciate the personal nature of the feud between Hugh Bigod and Stephen of Blois, who had started their careers as contemporaries and neighbours in Suffolk. In 1135 Bigod, by means of an oath, personally persuaded the Archbishop Theobald that Henry I had changed the succession in favour of Stephen (Giles 1994: 483-4; Greenway 1996: 728-31; Fairweather 2005: 46). Bigod rebelled at least twice between c.1135-6 and 1140 (Luard 1865a: 225, 228 & 230; Madden 1866: 254; Stubbs 1868: 191; 1872: 158; Luard 1874: 165; Howlett 1899: 129), apparently disappointed by the lack of a substantial reward for his

perceived gifting of the throne to Stephen, but it was Bigod's betrayal of the King at the battle of Lincoln c.1141 (Stubbs 1868: 199-204; Madden 1866: 265-6; Luard 1874: 171-3; Howlett 1899: 140; Greenway 1996: 736-7) that led to the final break and feud between them and led to Stephen constructing three castles to contain Hugh's raiding (Potter and Davis 1976: 174-5; Greenway 1996: 746-7). In c.1148-9 Stephen sent both his sons Eustace and William to confront Bigod in East Anglia (Potter and Davis 1976: 222-3; Walker 1976: 104-116; Keats-Rohan 2002: 240). The last campaign conducted by Stephen in 1153 was to recapture and destroy the castle at Ipswich held by Hugh (Stubbs 1872: 181; 1879: 156; Stevenson 1875: 17; Howlett 1884: 89; West 1964: 233; Potter and Davis 1976: 236-7; Greenway 1996: 768-89; Appendix 1.17). Nor did this conflict cease at the death of Stephen, but the feud continued between Earl William IV Warenne, Stephen's youngest son, and Earl Hugh, so that at his Whitsun court in 1157 King Henry II stripped both earls of all their castles (Howlett 1889: 192-3; Warren 1973: 67-8).

All this evidence (Map 2.6) suggests that the conflict was more intense in Suffolk than in Norfolk during the civil war and the distribution of these events suggests that the actual fighting, or rather raiding, was not limited in geographic scope but ranged across Suffolk.

2.5.3.c: Recent innovations in the study of medieval military history

The lack of an explicit model for medieval warfare in almost all archaeological studies makes it necessary to rely on models developed by medieval military historians; especially those influenced by the more theoretically informed and empirically rigorous continental tradition (Duby 1973; Delbrück and Renfroe 1990; Verbruggen *et al.* 1997).

2.5.3.c.i: Participation in medieval warfare

Before 1066 Anglo-Saxon England possessed a nation-wide defence system based on the requirement of all freemen to perform military service, a network of military roads with signalling stations, linking a series of fortified towns called *burhs* and a fleet. After 1066 warfare ceased to be communal and became the fiercely guarded prerogative of the new elite.

Honig (2001: 122) argues:

'The nobility fought hard to keep warfare as their profitable privilege and fought pitilessly against peasant, mercenary and burgher interlopers'.

Honig emphasises the 'gang' character of feudal warfare first identified by the Belgian historian Jan Dhondt (1963: 47-83). This is an important concept, as it creates a common ground between the medieval archaeologist, anthropologist and military historian as well as different theoretical

frameworks (Wrangham 1999). Dhondt's 'gang' model makes it possible to divide a feudal dynasty's network of relationships into leader, lieutenants, core members, peripheral members and supporters, which suggests a more dynamic model.

The 'gang' organisation is most clearly demonstrated in the way the feudal elite organised for war. The knight did not fight alone but in a unit, the *conroi* (Prestwich 1996: 48), while never a group of social equals, it nevertheless built a bond of comradeship between 'gang leader' and 'gang members', while imbuing them all with a collective sense of élan that contributed to making 'gangs' like the *Clarenses* so effective in battle (Moore 1897: 171; Butler 1962: 70; Greenway and Sayers 1999: 61-63 & 143 n.).

By contrast to this professional military caste Verbruggen (*et al.* 1997: 144) argued that: 'on the whole, peasant armies in France...and most of England were nothing but a mass of men without cohesion and without good armaments, and everybody knew it'.

Therefore, medieval warfare in the period 1066 to 1200 was conducted by the elite, their feudal followers, those they hired to fight for them and troops drawn from the major cities and towns. In short, warfare was not an activity that the majority of the English population ever actively or willingly participated in during the late 11th and 12th centuries.

Medieval battles, sieges and raiding were all dangerous and a series of chivalric conventions developed amongst the elite to mediate the dangers in warfare. Strickland (1996: 330-50) has identified a series of circumstance when these chivalric conventions governing medieval warfare broke down. These are: 1. Conflicts between different classes, where the social distinction differentiated the two sides. 2. Conflict between different religious groups, such as between Christians and non-Christians or Catholics and heretical Christians. 3. Conflicts between different ethnic groups. 4. Rebellion against the king, when the feudal relationship broke down and with it the social norms that governed warfare.

2.5.3.c.ii: The conduct of medieval warfare

Medieval military historians have reached a consensus about the favoured method of medieval warfare. Battle was to be avoided, as its results were too unpredictable and decisive, whereas siege warfare had a more predictable outcome and therefore dominated (Smaile 1956: 4-7; Contamine and Jones 1984: 101; Delbrück and Renfroe 1990: 324; Oman 1991a: 52-4; Rogers 1992: 254-73; Bachrach 1994: 119-133; Honig 2001: 111-126).

Norwich castle was besieged in 1075 (Chibnall 1969: 310-9; Van Houts 1996: 227; Greenway 1996: 213; Mynors *et al.* 1998: 472-3; Swanton 1996: 223); 1135-6 (Giles 1994: 488; Greenway 1996: 706-7) and captured by guile in 1174 (Stubbs 1867: 68; Howlett 1884: 177-8; Johnston 1981: 67 & 171n).

Historical evidence suggests that raiding was probably even more frequent than sieges in 11th and 12th century East Anglia (Potter and Davis 1976: 166-7; 174-5 & 238; Callahan 1976: 113-116; Contamine and Jones 1984: 101; Giles 1994: 495; Greenway 1996: 746-7; Greenway and Sayers 1998: 122-3; Chapter 2.5.3.b.).

There is only one documented battle in Suffolk between 1066 and 1200 at Fornham St Genevieve on 17th October 1173, which occurred at the end of a short campaign by the rebellious Earl of Leicester Robert Beaumont and illustrates medieval warfare well. The campaign saw the unsuccessful sieges of Walton castle and Dunwich, the plundering of the lands of Eye castle and the successful siege capture of Haughley castle (Rockewode 1840: 105-6; Madden 1866: 380-1; Stubbs 1867: 60-2; 1876a: 377-8; Prigg 1876: 501; 1878: 6; Arnold 1890: lvi-lix; Brown 1952: 127; Beeler 1966: 176; Edwardson 1971: 87; Johnston 1981: 71-81; Douglas and Greenway 1981: 375; Oman 1991b: 400-2; Mullally 2002: 127-9; NSMR Suffolk 175).

2.5.3.c.iii: The motives for medieval warfare

Medieval warfare does not follow a logical pattern from a modern military point of view as instead of concentrating their forces, medieval armies were often highly dispersed and engaged in systematically looting enemy territory. Honig (2001:111-126) has argued that medieval warfare, in the context of a subsistence agricultural economy, was the forcible acquisition and redistribution, through the feudal relationship network, of the economic resources of the enemy. Honig (2001: 116) further notes:

‘The first key feature is that a central objective in war was the acquisition of loot. When one surveys the campaigns from the period from the great migration to the Hundred Years War they all exhibited the same trait: armies cut, like giant lawnmowers, through wide swathes of enemy territory, penetrating deeply and burning and looting everything in their path’.

The plundering of the enemy offered functional solutions to the logistical problems of feeding the army and psychologically undermining the enemy’s feudal relationships by demonstrating the inability of a lord, whose land and feudal tenants were being plundered, to prevent his property being laid waste and his tenants being captured or slain.

Honig (2001: 118) furthermore argues that the acquisition and redistribution of plunder underpinned much of feudal elites' culture of and *mentalité* towards warfare.

'Here is a crucial paradox of the Middle Ages: war built social order. War gave access to a critical commodity that was needed to build a network of mutual loyalties. The depth and strength of these loyalties was closely tied to success of the gang in war. Success in turn, relied heavily upon the qualities of the gang leader'.³

2.5.3.c.iv: The technology of medieval siege warfare in the 11th to 13th centuries

The dominance of sieges in medieval warfare has led to a renewed interest in them. Bradbury (1992: 331) identifies the essential continuity of medieval siege warfare:

'The most notable conclusion is to find how similar are the methods and conventions which applied at the start and still at the end'. The three key technological changes were the introduction of Greek fire, the trebuchet and gunpowder technology'.

Hall (1995: 257-275) identified some of the practical logistical and sanitary problems facing medieval armies conducting sieges. There has also been some important recent experimental testing of the effectiveness of siege artillery and how it evolved from the 12th century (Denny 2005: 561-77). This is an important issue for claims about the defensive nature of castles, as it is anticipated that a castle will only be designed in relation to the anticipated level of threat.

There is also a long tradition in military history of believing in 'the power of technology to drive other events' (Hall 1995: 258; Parker 1996). Documentary evidence in the form of royal accounts records siege artillery from 1216 and has led to a number of conclusions about how the crown built and organised its siege-weapons (Bachrach 2004: 1083-1104). It is argued here and below that siege artillery was rare and relatively ineffectual before the mid-12th century, when Greek fire was introduced, and it was only after that date that castles came under threat of the counter-weight trebuchet, when it was introduced into England, probably by the French, in the early 13th century (King 1982: 461; Bradbury 1992: 85-6; Prestwich 1996: 297; Appendix 3.0).

It is suggested here that the combination of the new technologies represented by Greek fire and the development of effective artillery made Suffolk's earth and timber castles redundant.

Furthermore, the technological shift in the accuracy, power, destructiveness and rate of fire of trebuchet identified by Denny (2005: 561-77) made earth and timber castles ineffective fortifications, especially those with keeps vulnerably exposed on a motte, as they were never designed in anticipation of such a threat. Therefore, the lords of earth and timber castles had a choice c.1200: either rebuild in stone or to re-design the castle by lowering or removing the motte and raising a bigger earthwork enceinte in order to try to protect the keep. If they could

not afford this up-grade they had to adapt, giving up castle ownership in favour of a moated manor site instead.

2.5.3.c.v: The Church's attitude to medieval warfare

Dalton's argument (2000: 53-75) has been accepted as definitive evidence by some medieval scholars that the Church had a pacifying effect upon medieval warfare. However, Dalton cites Wallace-Hadrill (1975: 157-174) who had noted an important exception: that the Church was bound by its theology to support the legitimate authority of the crown and that rebellion was an offence against God's natural order. Bachrach (2003; 2004: 1083-1104) has recently argued that the English Church performed a vital logistical role, supplying the king:

'church officials appear to have been the largest nongovernmental source for providing the equipment for the transportation of military personnel and supplies in both war and peace' (Bachrach 2004: 1088).

It will be demonstrated in chapter four that this is especially important, in the case of a royal abbey like St Edmund's, where the abbot was appointed by the king and Abbot acted as viceroy within the Liberty of St Edmund (Map 2.7). Moreover, the Abbot was not above using force as the Baron of St Edmund and viceroy of the eight and half hundreds, to safeguard the abbey's privileges demonstrated by the ability of the Abbey to limit the creation and size of rival religious houses within the Liberty of St Edmund (Northeast 1999b: 70-1 & 201), but also to deploy military force in its own interest and suppress the trespassing market established by the rival Abbey of Ely at Lakenheath (Greenway and Sayers 1998: 117-9).

2.5.3.d: Population, social demographics and castles

It has long been known that rural East Anglia has a high total Domesday population and that 44.9% of this population were freemen or sokemen (Douglas 1927: 2; Darby 1971: 164-175 & 379).

Liddiard (2000a: 37-46), using Domesday population data as a proxy, argued:

- That the East Anglian Domesday villis that evidence castles have a larger absolute population than the county mean for 'rural' villis.
- That many of the populations of East Anglian Domesday 'rural' villis that evidence castles have a lower mean free population than the county average c.1086.

³ See also Harrison (1993: 14-21), who has made a similar case for warfare Melanesia.

On which basis he implied free population restricted castle building in East Anglia between 1066 and 1200. It is possible to test this model in a number of ways by creating a population data-set from the Domesday data-set of each vill that evidences a castle between 1086 and 1200 (Table 2.1, Appendix 2.0). However, three castles must be excluded from the data-set. Orford Castle is too late, it was not an independent vill at Domesday and the population data therefore cannot be trusted. Ilketshall St John is excluded because all the Ilketshalls were treated as a single Domesday vill in 1086 and not separate settlements of St. Andrew, St. John, St. Lawrence and St Margaret (Rumble 1986: 4,20; 22-24;26;28;32. 13,7.) and making comparisons using this data problematic. Thetford's Domesday data is excluded because it does not distinguish between those parts of the borough in Suffolk, where the ring-work Red castle is located, and those in Norfolk, where the motte and bailey Thetford castle is located (Brown 1984: 1, 69-70; 210-211. & 9,1.; Dymond: 2003: ix; Figure 10).

2.5.3.d.i: The total population of a Domesday vill evidencing a castle

It is possible to tabulate a total for the population of twenty-four Domesday villas as a data-set (Table 2.4). This informs us that 1773 of the total Domesday population recorded in Suffolk lived in settlements with castles. As a result, the mean recorded population for all Domesday villas in Suffolk evidencing castles between 1066 and 1200 is 73.86 per vill.

2.5.3.d.ii: 'Rural' and 'urban' castles

Liddiard's (2000a: 37-46) model is predicated upon the theoretical assumption that there was an 11th- and 12th-century distinction between 'urban' and 'rural' castles. The term 'urban' castle was coined by Drage (1987: 117), defining it as comprising; 'a group of castles superficially distinguished from the generality of that type, not by any intrinsic criterion but by the circumstance of their location'. Despite problems with such a definition the term 'urban' castle has been generally accepted in castles studies and Liddiard (2000a: 37-46; 2000b) casually refers to 'rural' and 'urban' castles as alternative types.

Traditionally, Domesday studies have defined an 'urban' settlement by the presence of burgesses. There were six boroughs in Suffolk c.1086, at Beccles, Clare, Dunwich, Eye, Ipswich, and Sudbury and although there were no burgesses at Bury St Edmund's, that is also considered to be 'urban' (Darby 1971: 164-175 & 379; Map 2.2). It has already been noted that the half of Thetford south of the river Little Ouse, including the Red castle, was part of Suffolk, although recorded in 1086 in the Norfolk Domesday Book (Dymond 2003: ix). Therefore, the

four castles, or 15% of the castle data-set, associated with the boroughs of Clare, Eye, Ipswich and Thetford should be regarded as 'urban' Suffolk castles (Appendices 1.5; 8, 17 & 25).

In practice, there are considerable problems with such definitions, such as what counts as 'urban' and what counts as 'rural'. For example; Ipswich castle never appears to have been within the borough's defences and was located at Castle Hill, now in the neighbouring parish of Westhorpe (Appendix 1.17). Bungay castle was built within the existing late Anglo-Saxon town defences, but Bungay was not a borough (Appendix 1.2, Figures 4, 5). So, does Bungay count as an 'urban' castle or not? Clare castle is also located outside the burghal earthworks of Erbury (Appendix 1.5, Figure 73), again raising the question whether this is an 'urban' or 'rural' castle? Finally, some other Suffolk castles appear to have included urban settlement in their outer baileys, as at Framlingham and Haughley, or located close by the castle, as at Lidgate (Appendices 1.10; 15 & 18, Figures 6; 11). It is argued here that the division between 'urban' and 'rural' castles is a modern analytical construct and that there is no evidence that such a conceptual distinction existed in Suffolk between 1066 and 1200.

However, for purposes of comparison with Liddiard's (2000a: 37-46) arguments it is useful to present the data-set of Domesday Suffolk castles excluding those whose population data are unknown as well as those 'urban' castles. However, it must be noted that a distinction must be made between the manorial population of a Domesday vill and the absolute population of each vill (Table 2.5). For example, a Domesday vill may contain more than one manor and a manorial population may include the population of any outliers located in another vill remote from the vill under discussion. By contrast, the absolute Domesday population of vill includes only the population resident in the vill, regardless of which manor they belonged. It excludes any remote outliers of the vill, but includes all outliers within the Domesday vill under examination including those belonging to manors in other vill.

It is then possible to produce a second Domesday population data-set of twenty-one 'rural' Domesday castle sites (Table 2.6), which informs us that 1185 Domesday individuals, or 6.2% of the county's 'rural' Domesday population, were living in one of the twenty-one, or 3.3%, of 'rural' Domesday vill that evidence castles between 1066 and 1200 (Darby 1971: 379). There is a total 'rural' Suffolk's Domesday population of 19124 located in 633 vill c.1086, suggesting that the mean recorded population for a typical 'rural' Domesday vill is 30.21 per vill (Darby 1971: 375 & 379), whereas, the mean population for a Suffolk 'rural' Domesday vill that later acquired a castle is 56.43 per vill. This further suggests that 16, or 76%, of the 'rural' Domesday vill that acquired castles had total populations equal to or greater than mean absolute population figure for the county. This evidence supports Liddiard's (2000a: 37-46)

case that the total population of 'rural' Domesday villis that evidence castles is higher than the county mean for all 'rural' villis.

2.5.3.d.iii: Social demography of 'rural' Domesday vill

The social demographics of each of the 'rural' Domesday villis can be calculated with the free element of the population defined as freeman and sokemen (Darby 1971: 169; Liddiard 2000a: 37-46; Table 2.7). It is then possible to calculate the percentage of free and non-free population attached to the twenty-one 'rural' Domesday villis that evidence castles between 1066 and 1200 and express this as a chart comparing the populations (Chart 2.3).

From Chart 2.3 it is established that, of the twenty-one 'rural' Domesday villis that later acquire castles, 7 (or 33%) have free populations greater or equal to Suffolk's exceptionally high mean of 44.9% free Domesday population (Darby 1971: 379). These include: Finningham (86%), Great Ashfield (68%), Groton (46%), Lindsey (52%), Offton (48%), South Cove (67%) and Walton (55%). This suggests 67% of 'rural' villis that evidence castles have a social demographic where the free Domesday population is less than the county mean c.1086.

Again at a *prima facie* level the evidence supports Liddiard (2000a: 37-46) suggestion that East Anglian Domesday villis with castles had a relatively low percentage of Domesday free population.

2.5.3.d.iv: Problems with the model

Liddiard's argument is predicated on a distinction between 'rural' and 'urban', into which many castles in Suffolk do not easily fit. Discussions of Domesday population are complex, problematic and are dependent on the scale of resolution employed. Furthermore, Liddiard's claims (2000a: 37-46) about free population restricting castles is deceptively strong and that deeper analysis of Domesday populations throws up contradictions emphasising the complexity of the data and the importance of scale when examining the relationship between castles and Domesday population.

2.5.3.d.iv.1: The model is not predictive

Darby gives his population figures in square miles, which determines the units of measurement for the following argument (Darby 1971: 173: Fig. 44). The original area of the county of Suffolk (Dymond 2003: ix) according to the 1st edition Ordnance Survey data was 1488 square miles and possessed 23⁴ 'rural' castles, which produces a mean density of 'rural' castles of one per 69.7 square miles. By contrast the county of Norfolk had an area of 2052 square mile and 15 'rural' castles sites, which produces a mean density of one per 136.8 square miles (Ordnance Survey: 1891; 1893; Rogerson 1994: 68-9; Liddiard 2000a: 20). Therefore, the density of 'rural' castles in Suffolk is almost double that of Norfolk.

1. The density of 'rural' population in Domesday East Anglia

Norfolk has a total area of 2052 square miles and an absolute 'rural' population of 26370, which produces a mean density of absolute Domesday population of 12.85 per square mile. Suffolk has a total area of 1488 square miles and an absolute 'rural' population of 19124, which also gives a mean density of absolute Domesday population of 12.85 per square mile (Darby 1971: 379). This suggests the mean density for the absolute 'rural' population is identical in both counties.

2. Free 'rural' population in Domesday East Anglia

It should also be noted that in Suffolk 90% of the free population are freemen against 10% sokemen, but in Norfolk 49% of the free population are freemen and 51% are sokemen (Darby 1971: 168-9 & 379). The total Domesday 'rural' free population in Suffolk is 8589, consisting of freemen (7730) and sokemen (859) can also be divided by the Domesday area of the county, which produces a mean density of 'rural' free population of 5.8 per square mile. Contrasting with the total of 10660 free 'rural' population in Norfolk, consisting of freemen (5250) and sokemen (5410) can also be divided by the Domesday area of the county, and this produces a mean density of free 'rural' population of 5.19 per square mile.

To summarise:

The mean density of absolute 'rural' Domesday population is identical in both counties, but Suffolk has a far greater density of castles than Norfolk.

The mean density of the free element of the 'rural' Domesday population is greater in Suffolk, but that the county has a far greater density of castles than Norfolk.

⁴ Orford and Ilketshall St John are included here because their Domesday data is superfluous to the

At the resolution of county Domesday populations Liddiard's (2000a: 37-46) model, fails to predict the density of castles. Liddiard's model, at the county scale of resolution, would anticipate more castles in Norfolk given the larger area of the county than in Suffolk and given that the lower mean density of free 'rural' population in this Norfolk than in Suffolk. While Liddiard's model works at the resolution of the Domesday vill it cannot predict the density of castles at the county scale of resolution.

2.5.3.d.iv.2: The number of individual freemen and sokemen in a Domesday 'rural' vill

A total of 326 freemen or sokemen lived in the twenty-one 'rural' Domesday villas that acquired castles between 1066 and 1200, producing a mean free 'rural' Domesday population for Suffolk of 15.52 freemen or sokemen per vill that evidences a 'rural' castle (Table 2.8).

However, once again the county level of resolution is problematic for Liddiard's model. The absolute free 'rural' Domesday population is 8589 freemen and sokemen divided amongst 633 'rural' villas (Darby 1971: 375 & 379), produces a mean of 13.57 members of the free 'rural' population per vill and suggests, 9, or 43%, of those twenty-one 'rural' Domesday villas that acquired castles between 1066 and 1200, have a higher mean free 'rural' Domesday population than the mean free population for Suffolk villas.

2.5.3.d.iv.3: The absolute 'rural' Domesday population density of the vill and their hundred

It is argued here that an approximation of the density of population can be derived by dividing the total Domesday population of the vill by the pre-1844 parish area recorded in the Victoria County History (Minchin 1911: 681-695) and then compare an approximate Domesday population density of the parish with the population density of the hundred calculated by Darby (Darby 1971: 173; Map 2.3 & 4). However, there are four Domesday villas where 'rural' castles were built between 1066 and 1200 do not evidence churches in 1086, namely at Groton, Lidgate, Nayland and South Cove (Appendices 1.14; 18; 21 & 26) and several 'rural' Domesday villas in the data-set record more than one.

Table 2.9 demonstrates that the approximate mean absolute Domesday population density of 'rural' villas that gain castles between 1066 and 1200 is 17.5 per square mile, compared with the mean absolute population density for hundreds where 'rural' Suffolk castles occur, which is 13.96 per square mile.

Table 2.9 and Map 2.4 demonstrate that the mean density of total Domesday population of the 'rural' vill with castles is higher than the mean density of the total population of their respective hundreds in twelve, or (57%), of the twenty-one 'rural' Domesday vills that gained castles between 1066 and 1200. This data supports Liddiard's first claim that castles tend to be built in vills with larger than average absolute Domesday 'rural' populations at the scale of resolution of the hundred.

2.5.3.d.iv.4: The free 'rural' Domesday population in the vill and their hundreds

In Domesday Suffolk the free element of the population exercised power through the institution of the Hundred rather than through the Domesday vill. The percentage of free population in a hundred should reflect the relative authority and influence of the hundred and farthing courts.

It is argued here that the larger the percentage of the population subject to the hundred courts, the greater the influence of those institutions and consequently the better placed was the free population to constrain castle building. Therefore, we can compare the percentage of free 'rural' population in the vill and the percentage of the free population in the hundred (Table 2.10).

From this we can ascertain that in Suffolk twelve (57%) 'rural' castles are located in hundreds where the free population made up 50% or more of the total population of the hundred and four (19%) castles are located in hundreds where the free population made up 25-50% of the total Domesday population in the hundred, but only five (24%) castles are located in hundreds where the free population made up 10-25% of the total Domesday population in the hundred (Darby 1971: 361).

In summary; Liddiard's model is strong at identifying high levels of total 'rural' population at the scale of resolution of the vills and hundreds where Suffolk castles occur, but it does not explain why it has so many more castles and at a greater density than Norfolk, given they share an identical density of total Domesday population. Liddiard's model is more ambiguous when identifying the influence of free population at hundred and county scale of resolution, given the greater density of free population and when 90% of the free population consists of freemen. Specifically Liddiard's model does not explain; why 34% of castles demonstrate exceptionally high levels of free 'rural' Domesday population in a county with an exceptional high level of free population to start with, why 66% of castles were built in hundreds with higher levels of free population than the vill, why 57% of castles are built in hundreds with exceptionally high levels of free population or why there are such a greater number and density of castles Suffolk

compared with Norfolk given the differences in free 'rural' Domesday populations in the two counties?

2.5.3.d.v: The 'aesthetic' landscape approach

The significance of castle landscapes was first suggested by David Austin (1984: 69-81). Liddiard (2003b: 4-23) amongst others has developed an aesthetic or 'landscape of lordship' approach to castles in East Anglia and like many modern castles studies focused on deer parks.

2.5.3.d.v.1: Pre-Conquest deer parks in Suffolk

The Suffolk Domesday Book records pre-Conquest deer parks at Ixworth, Dennington, Eye, Leiston and half a park at Bentley (Darby 1971: 180; Rumble 1986: 1,101. 6,83;191;303. 66,1.; Liddiard 2003b: 7). Scarfe (1986: 16) has suggested that Great Ashfield had a pre-Conquest deer park, but none is evidence before 1420 (Hoppit 1992:70). Another pre-Conquest deer park at Southwood Park was tentatively identified associated with late-Anglo-Saxon Desning. It will be argued in the case studies that Desning manor had a *wudu-weard* or 'wood warder' who managed woodland at Southwood, possibly both as a hunting ground and the timber supply of Desning manor. This is evidenced by the post-Conquest *Wdewardescroft* at Gazeley held as part of the sergeantry by the parker/forester of Southwood and Desning (Appendix 19; Harper-Bill and Mortimer 1982: 17, 102-112; Harper-Bill and Mortimer 1983: 295-6, 290, 292, 323-4, 440n.).

This would suggest that seven deer parks existed in Suffolk before the introduction of castles. These also included the three deer parks at Dennington, Leiston and Eye were the property of Edric of Laxfield, a.k.a. Edric the Blind (Douglas 1932: xc-xcii, 3-21; Keats-Rohan 1999: 185). The deer park at Ixworth was the property of Aki, who also held the manor of Great Ashfield. Bentley was held by Earl Gyrth, King Harold's brother and the last pre-Conquest Earl of East Anglia. Shortly after the conquest Bentley was attached by Ralph the Constable, the first post-Conquest Earl of East Anglia (d. c.1069/70), as a second outlier of the royal manor at East Bergholt (Rumble 1986: 1,101; n.).

2.5.3.d.v.2: Post-Conquest deer parks in Suffolk

By 1086 these pre-Domesday deer parks had been redistributed to the new Anglo-Norman elite, who constructed additional deer parks, so that fourteen Suffolk deer parks were evidenced by 1200 (Hoppit 1999a: 66-7; Table 2.11).

It should also be noted that before the Conquest none of the deer parks in Suffolk were the property of Anglo-Saxon ecclesiastical lords, however, between 1086 and 1200 six new deer parks were established by ecclesiastical lords. The Abbot of Bury St Edmunds created five new deer parks at Bradfield, Elmsett, Chelsworth, Semer and Assington and the Bishop of Norwich founded a sixth park at Homersfield, but none of these deer parks were associated with castles in Suffolk.

The remaining seven deer parks were held by secular barons who built castles in Suffolk between 1066 and 1200. The pre-Conquest deer parks at Eye and Leiston belonged to the castle and honour of Eye, established by Robert I Malet c.1070-86. In 1105 Robert II Malet was exiled and his property passed to the crown with the honour of Eye subsequently granted to a succession of royal favourites (Sanders 1960: 43-4; Piers 1989: 569-89; Keats-Rohan 1999: 389-391). Three deer parks (one pre-Conquest) at Dennington and two new deer parks, at Buttrehaugh and Kelsale, were associated with the honour and castle of Framlingham, which Wareham has convincingly argued was early-12th-century in date (Sanders 1960: 46-7; Wareham 1994: 223-42).

Hoppit has argued there was a close correlation between deer parks and castles in Suffolk and identified thirteen 11th- and 12th- century castles, of which ten were identified with deer parks. Hoppit acknowledged that only a small proportion of the total number of deer parks identified in Suffolk between 1066 and 1603 were linked to castles but concluded: 'Most of the castles in the county had associated parks' (Hoppit 1992: 99 & 102).

To achieve her figure of ten 11th- and 12th-century Suffolk castles with deer parks, Hoppit argued that Framlingham and Bungay had deer parks created in association with them from the late 12th century (Hoppit 1992: 70). It has been argued that when Framlingham castle was rebuilt 1190-1200, a new symbolically structured landscape was created (Coad 1971: 152-163; Plowman 2005: 43-50). It is argued here that this is the most likely date when the new deer park may have been created and despite the large number of surviving documents concerning Framlingham castle, the earliest evidence for a deer park is not until 1276 (Cantor 1983: 70-1), and Bungay's deer park at Stowe is not mentioned until post-1250 (Hoppit 1992: 70). Both of

these deer parks and new post-Conquest deer parks at Buttrehaugh and Kelsale were constructed by the Bigod family c.1086-1200, who already owned the pre-Conquest deer park at Dennington.

Ixworth's pre-Domesday deer park pre-dates Great Ashfield castle and the honour, part of a barony granted either to Robert Blundus, another post-Conquest Sheriff of Norfolk, or his son Gilbert (Green 1990: 60; Keats-Rohan 1999: 370; 2002: 178). By 1166 this honour had lost 5 knights' fees in Wiltshire, their priory at Ixworth and probably their incomplete castle at Great Ashfield (Sanders 1960: 3-4; Hall 1896a: 408-9; Dugdale 1846: iv 311; Keats-Rohan 2002: 179).

The Great Park at Hundon is associated with the castle and honour of Clare, held by the Earls of Hertford from c.1090 (Harper-Bill and Mortimer 1982: 17, 115; Hoppit 1992: 34; Ward 1983: 191-202). A 'Sivard the huntsman' is recorded in the cartulary of Stoke by Clare Priory in the late 11th or early 12th century (Harper-Bill and Mortimer 1982: 115). A second deer park associated with the honour of Clare and its castle was recorded at Thaxsted in Essex c.1192-1217 (Harper-Bill and Mortimer 1982: 33; Harper-Bill and Mortimer 1983: 310-311). A third deer park is recorded in the cartulary in the 13th century, but this was the property of Reginald, son of Roger de Toppesfield (Harper-Bill and Mortimer 1983: 397-398). A fourth pre-Conquest park or managed wood has already been suggested at Desning (Appendix 19; Harper-Bill and Mortimer 1982: 17, 102-112; Harper-Bill and Mortimer 1983: 295-6, 290, 292, 323-4, 440n.).

This evidence suggests that between 1066 and 1200 just three new deer parks were created, at Hundon, Buttrehaugh and Kelsale, by Suffolk's new secular Anglo-Norman castle-building elite. These deer parks were created by just two baronial families, the Bigods of Framlingham and the de Clare family. Moreover, post-Conquest ecclesiastical lords established twice as many new deer parks between 1066 and 1200 compared with secular lords, but none of these were linked to castles.

Only five castles out of a sample of twenty-seven castles constructed in Suffolk between 1086 and 1200 appear to have had deer parks associated with them in the 11th and 12th century. These are Clare, possibly Desning, Eye, Framlingham and Great Ashfield (Appendices 1.5; 7-8; 10 & 12). Even then, the parks were not necessarily post-Conquest in origin, in the same Domesday vill as the manor or even the same parish as the castle whose landscape deer parks are supposed to be part of. Furthermore, the pre-Conquest deer park at Leiston associated with Eye castle, is located 32km away from it. With the exception of the urban castle at Eye and its pre-Conquest deer park, all the deer parks found in Suffolk are located at least 4km away from their castles

and this raises the question, how remote a deer park can be from its castle yet still remain part of a 'landscape of Lordship'? This evidence would contradict Hoppit's (1992: 105) assertion: 'Suffolk's parks which were associated with castles and palaces were, therefore, rarely a great distance away from them'.

2.5.3.d.v.3: A data-set of Suffolk deer parks 1066 to 1200

Hoppit's (1992: 100) data-set of 11th- and 12th-century castles is highly selective because several Suffolk castles were ignored by her survey, for example Freckenham, Groton and Milden. Therefore, a more complete list of all known 11th- and 12th-century Suffolk castle sites that acquired a deer park at any point between 1066 and 1600 is necessary. This is offered here and cross-referenced with the evidence of any deer parks at any castle locations identified by Hoppit or noted by others (Table 2.12). For example, the cartulary of Stoke by Clare priory suggests that a deer park existed at Desning by the mid-12th century, because of several references to a parker (Harper-Bill and Mortimer 1983: 295-6), it has been argued in the Appendices (1.7; 15.1 & 19.0) that this appears to have been a pre-Conquest deer park at Southwood Park rather than a feature constructed to complement the castle at Desning.

The new data-set allows us to test the claims made about 11th- and 12th-century castle sites and deer parks as well as to identify any other potential deer parks associated with castles in Suffolk between 1066 and 1200. Furthermore, it demonstrates that, contrary to Hoppit's claim, Suffolk castles pre-dated deer parks in the majority of cases. Finally, given the time difference between the construction of castles and deer parks and that most Suffolk castles in this period were substantially earth and timber structures, in many cases the original castles would have deteriorated beyond all practicable use long before the later deer parks were created.

From the data (Table 2.13) it is possible to draw the following conclusions:

- The pre-Conquest deer parks of Suffolk were all established before any castles were built in the county, and were associated with secular Anglo-Saxon lords. However, none of the parishes with pre-Conquest deer parks, with the exception of the urban castle of Eye, gained castles during the 11th and 12th centuries.
- There is no evidence that any other of the twenty-seven 11th- and 12th-century castles in Suffolk had contemporaneous deer parks, apart from the four or five suggested. Moreover, apart from the four pre-Conquest deer parks, only three new parks were

created by castle-building dynasties between 1075 and 1200 and all three parks were associated with Clare and Framlingham castles.

- Six of the fourteen deer parks identified in Suffolk in the 11th and 12th centuries were established by ecclesiastical lords, none of whom constructed castles in Suffolk, which means that twice as many new deer parks were constructed in Suffolk by ecclesiastical lords as by secular lords before 1200. Furthermore, the deer park at Bentley was associated with the royal manor of East Bergholt and had no associated castle.
- The remaining seven deer parks dated by Hoppit between 1086 and 1200 are associated with just four baronial castles at Clare, Eye, Framlingham and Great Ashfield and one sub-baronial castle at Desning.
- The conclusion that deer parks are generally a post-12th-century phenomena is supported by the Hoppit's own study, which found that the most dramatic increase in the number of Suffolk deer parks is recorded between 1251 and 1300 and reached a peak between 1301 and 1350, when fifty plus deer parks are evidenced in the county (Hoppit 1992: 71-2). It has been argued that the majority of Suffolk post-Conquest deer parks substantially post-date the majority of Suffolk castles.
- In the case of at least six Suffolk castles – Burgate, Great Ashfield, Great Fakenham, Haughley, Nayland and Walton - deer parks are only recorded after the castle had been either deliberately destroyed, fallen into disrepair, become redundant technology, been abandoned or seen a change in use.

2.5.3.d.v.4: Summary

In conclusion, of the twenty-seven castle sites identified in Suffolk 1086-1200, only a maximum of five (18.5%) of the data-set – Clare, Desning, Eye, Framlingham and Great Ashfield (Appendices 1.3; 7-8; 10 & 12) - had deer parks associated with them in the 11th or 12th century. Therefore, deer parks are not a landscape feature contemporaneous with most castles in the county, and any study of them in relation to Suffolk's castles between 1086 and 1200 is of only limited value.

The chronological distribution of Suffolk's castles acts as an important constraint and explains why landscape features - for example deer parks, rabbit warrens, formal gardens and planned

landscapes - are not found associated with the majority of the county's castles. It is argued here that the majority of Suffolk's castles did not remain operational long enough to create or evolve a 'landscape of lordship' (Liddiard 2000b; 2005).

Many Suffolk castles quickly became redundant because of the technology of their construction, as military technology of warfare changed, were deliberately slighted as part of the royal pacification programmes or as dynasties failed. It is argued here that, while acknowledging that such landscape features are associated with later phases of a castle development and are evidenced in Suffolk from the end of the 12th century, they are not associated with the majority of Suffolk castles as they post-date the data-set. Furthermore, it is argued that 'landscape' has become an imprecise descriptive term, and instead this thesis will concentrate on empirical environment evidence of Suffolk's 'landscape' in terms of topography, geology, hydrology and historic timber supply. Moreover, it will be argued that tangible environmental factors, rather than symbolic landscape features, informed cultural practice, economic organisation, demography and settlement patterns as well as influencing the location and morphology of castles in 11th- and 12th-century Suffolk.

2.5.3.d.vi: Suffolk castles, baronial caputs and the 'landscape of Lordship'

Liddiard (2000b; 2005) has argued that a characteristic of a castle is the creation of a symbolically structured 'landscape of Lordship' around it. However, there are eleven baronies that are recorded in Suffolk between 1066 and 1200 (Sanders 1960: 3-4, 16-17, 29-30, 34-5, 43-5, 46-7, 98-99, 120-1 & 126). Ten of these are secular baronies and one, St Edmund's, was held by the Abbot of St Edmund (Arnold 1890: 283 & 292). There are also two substantial feudal honours held from ecclesiastical lordships in the county, which may have been perceived to have been baronial in status. Lidgate was held by the hereditary Steward of St Edmund's Abbey (Douglas 1932: 80; Landon 1930: 174-9; Appendix 12.0) and Bacton was another hereditary honour held from the bishop of Norwich (Appendix 16.6.2, Map 2.8). Of the eleven baronies only six at Bungay, Clare, Eye, Framlingham, Great Ashfield and Haughley evidence baronial *caput* castles in the county. However, two of these at Bungay and Framlingham appear to have been held contemporaneously by the Bigod family and the Bigod's baronial *caput* appears to have periodically migrated between during the period 1066 and 1200 (Appendix 16.1).

This suggests that five baronial castles with *caput* status existed at anyone time. By contrast five other known Suffolk baronies at Blythborough, Cavendish, Kentwell, Great Bealings and St Edmund's evidence no baronial *caput* castles in the county between 1066 and 1200. Moreover, of the two major feudal honours held from ecclesiastical lordships, Lidgate evidences a *caput*

castle but Bacton does not. Therefore, only half the baronies or major ecclesiastical honours located in the county had castles at their baronial centres. This data questions the legitimacy of applying the concept of a 'landscape of Lordship' to Suffolk castles.

2.5.3.e: The post-processual/post-modern model

Matthew Johnson has been in the vanguard of championing the theorising of castle studies, especially in the study of late medieval castles (Johnson 2002). Johnson argues for a new, more theoretical approach to castles and suggests a methodology for the study of castles with eight elements:

'First a new sample based on strictly archaeological criteria, not dependent on documentary references; second, intensive structural analysis along the lines pursued by Dixon and others of a rigorously defined sample of structures; third, intensive excavation of some structures; fourth, detailed analysis of their landscape context beyond the collection of case studies we currently have; fifth, a full consideration of contemporary mentalities both elite and common, including late medieval vernacular texts; sixth, full consideration of castles across Europe, treating so-called 'Celtic fringes' equally with 'heartlands'; seventh, consideration of artistic portrayals; eighth, consideration of social identity as expressed in other classes of material and textual culture, for example, funeral monuments' (Johnson 2002: 16).

It is the fate of all champions to be first into the breach and to draw the most fire. In this case, my objections are as follows:

To ignore contemporary documentary evidence fetishises material culture over other forms of evidence. Contemporary documentary evidence is as much part of material culture as archaeology; to claim otherwise simply distorts the debate, excludes important sources of data and abandons the multi-disciplined consensus which is a strength of medieval studies. This thesis is a study of the earthwork remains of castles; it therefore adheres to strict archaeological criteria and agrees with Johnson on this initial starting point. However, a multi-disciplined approach is made necessary because some of the archaeological earthwork remains of Suffolk's castles have been obliterated. Johnson's strict archaeological criteria preclude, for example, Creting St Peter castle from any discussion of Suffolk castles, because all traces of this castle earthworks were obliterated in the 1950s when the then owner bulldozed them (Appendix 1.6).

It has been argued, that the majority of castles in Suffolk were built of earth and timber, not stone-built. Like the vast majority of castles constructed in the England, they were constructed wholly or partly as earth and timber rather than stone fortifications (Higham and Barker 2004: 17). Consequently, by insisting on structural analysis of standing archaeology Johnson automatically selects atypical castles and excludes the normative. In East Anglia the only available building stone is septarium or flint (Figures 19-22). Septarium is known locally as

turtle or cement stone and is used in the construction of the stone castles at Colchester (c.1070), Orford (c.1165) and the rebuilding of Bungay (c.1165-6) and Framlingham (c.1190-1200) (Brown 1964: 16; Braun 1991; Whitaker 1885: 101). The lack of stone in the region has important implications for castle building in East Anglia. It also fundamentally impacts on the theoretical approach adopted, suggesting as it does a weakness in Johnson's and others methodology, because so much of his and their position relies on the recovery of information from the standing stone-built structures that are atypical example of Suffolk castles and as a result skews his epistemology. For example, Johnson examines only two castles in East Anglia, Caister on Sea, built in 1433, and Framlingham castle, originally built in the early 12th century as a motte and bailey castle, probably over an early Anglo-Saxon lordship centre, and surviving as a stone structure without a motte of a late 12th-century date (Coad 1971: 152-63; Wareham 1994: 223-42; Salter 2001: 45-7). However, dozens of castles in East Anglia had already been built, rebuilt and become redundant for many years prior to Johnson's two examples; yet he chooses to ignore the existence of such castles until chapter four, when he states:

'I have talked exclusively about late medieval castles. I want now to move on, and turn to the sixteenth and early seventeenth centuries' (Johnson 2002: 93).

Johnson has an agenda that ignores the data selectively. He fails to discuss either the most common form of or the precise chronological occurrence of castles. He does admit in a single sentence in the introduction that there is a strong case for a military explanation for 11th- and 12th- century castles, but his model cannot explain how castles came about or changed from a simple earth and timber fortification in the 11th century into a stately home in the 16th century.

'Landscape' has become a debased theoretical term. Without defining precisely what counts as 'landscape' evidence, there is no way of establishing the relationship between a castle and its surroundings. The dominant 'aesthetic' landscape approach, concentrating on deer parks, has been demonstrated to be inappropriate evidence in the case of the majority of castles in Suffolk.

A landscape approach is less easy to apply to early castles, which may have a relatively short life-span, compared to Johnson's examples of later castles. These acquired overtime a highly formalised landscape, while crucially, his sample of castles continued in residential use well beyond the medieval period. Johnson's castles survive precisely because they continued to function as the stately residences of the elite that they were designed to be well after the high medieval period. This survivability and length of occupation is also atypical; the majority of English castles do not survive as viable structures into the 13th century, let alone the 17th century.

East Anglia has a rich and diverse variety of landscapes which have been so subject to change as to have produced a fundamental reordering of the medieval landscape of Suffolk castles, which makes it extremely difficult to compare landscapes of different Suffolk castles for common features. Today many earth and timber castle sites survive at the margins of modern arable production, in isolated pockets of woodland, far from any modern settlement.

While comparing castles across Europe is desirable, it is also true that the technology of castle-building arrived at different times in different parts of Europe. For example, the first castles in Ireland were constructed almost a hundred years after they had started to appear in England. As a result, there is an immediate problem of too much data to be able to compare different sites with different chronologies, contexts, technologies and environments.

There are few contemporary illustrations of earth and timber castles and none of Suffolk earth and timber castles. Moreover, artistic impressions provide notoriously imprecise representations of castles, as Barker and Barton (1977: 80) demonstrated by comparing the illustration of the raising of Hasting castle's motte on the Bayeux Tapestry compared with the reality of the excavated motte.

Johnson's case selection is undermined by the archaeological evidence of castles in Suffolk, which are overwhelmingly earth and timber in form and 11th- or 12th- century in date. Central to Johnson's post-processual claims about castles is the notion that later castles are highly complex and multi-faceted to the degree that their meaning is ultimately unknowable. This conclusion, if anything, contradicts his other stated ambition: to establish a model-based approach to medieval archaeology. All theoretical models are predicated on the notion of synthesising the evidence or data in order to make meaningful and, in more positivist traditions, testable claims. If Johnson's insistence on theorising highly complex evidence only leads him to the conclusion that the evidence is too complex to understand, then his original aspiration to create a theoretical model must logically fail. If your model leads to the fragmentation of all meaningful claims, then this suggests that Johnson is arguing for the triumph of the descriptive. Moreover, Johnson assumes that the complex, fragmentary and unknowable nature of castles, as they survive as an archaeological phenomena into the 21st century, was just as complex, fragmentary and unknowable in the past.

Finally, Johnson rejects all forms of essentialism, which is in direct contrast to our existing knowledge of one of the dominant factors of medieval *mentalités*: religion. Medieval religion, both Catholic and non-Catholic, was wholly essentialist in nature. To reject essentialist

explanations for medieval phenomena on theoretical grounds is peculiarly suspect, given the key role of religion and the effect of essentialist ideas on medieval peoples' beliefs and actions.

2.5.4: A critique of the geological model

Halsall's argument (2000: 31-30) is based on five assumptions:

1. That all castles are made of stone (Halsall 2000: 4). However, as has been noted above, stone castles, especially in Suffolk, are atypical.
2. Castles must be studied using a modern military methodology and terminology, thereby excluding other possible explanations than purely military motives for the siting of castles (Halsall 2000: 3-4). Halsall cites as evidence of his methodology two works, both of which are almost exclusively concerned with modern or, more correctly, early-modern artillery fortifications rather than medieval castles. Modern military analytical techniques, when used inappropriately, tend to force modern military solutions to fit historical problems, at the expense of the evidence or other possible explanations.
3. That a typical castle is represented by the currently surviving standing structures he has chosen in his case selection of Edinburgh, Bamburgh, Dunstanburgh, Beeston, Harlech, Windsor and Corfe castles. This thesis, on the contrary, argues that the typical early medieval castle in England was of earth and timber, occasionally with a central stone-built feature, for example a hall or donjon. Therefore, the majority of the archaeological evidence does not survive as standing archaeology but as earthworks. Moreover, Halsall's examples are all royal or baronial *caput* castles. As a result he ends up with an unrepresentative sample. Halsall's pre-occupation with stone geology leads him to miss the subtler geological factors acting upon earth and timber castle building in lowland England.
4. Halsall (2000: 3) holds that there are such things as 'the great medieval castles of Britain' but then fails to define what they are. There is no such thing as a typical 'British castle', because there are fundamental differences in context and legitimacy between those castles built by the Anglo-Norman elite in England and those 'colonial' castles established by the English crown, or its agents, during the conquest of Wales, Scotland and Ireland.
5. Halsall fails to identify any previous use of castle sites from his sample. For example, Corfe castle overlies an Anglo-Saxon royal palace and Bamburgh castle overlies a late Anglo-Saxon *burgh*, an early Northumbrian palace complex and a Romano-British political centre. If Halsall's

sites had a previous use, then he is unable to claim geology is specifically driving the construction of castles on his sample of sites. These sites may well be geologically fitted for a building, but that building does not necessarily have to be a castle. Halsall's argument can thus not be held to demonstrate that geology alone determines the site of castles.

2.6: Research question

The failure of the five models outlined and critiqued above re-opens the question of the purpose of castle construction in the 11th and 12th centuries. The central objective of the thesis is to offer alternative explanations for castle building, by identifying the catalysts for early castle building in England. It will be argued that early castles were constructed by a new elite organised as 'gangs', that this new elite engaged in competition that could break out into open conflict, and that castles therefore reflect military purpose, political and the dynastic ambitions of this new elite.

2.7: Case selection: Why Suffolk?

The choice of a rich, populous and lowland county like Suffolk for this thesis is deliberate:

1. The county of Suffolk offers the following advantages:
 - a. Twenty-seven early castle sites (Appendices 1.1-27).
 - b. It contains examples of royal, baronial and sub-baronial castles.
 - c. Different morphologies of sites can be observed, including motte and bailey, ring-work, motte and tower and reused earlier fortified sites.

This wide variety of sites across time, ownership and structure will allow a full testing of all alternative explanations as to their purpose.

2. A study of Suffolk castles can complement the most recent county-wide survey carried out by Liddiard (2000b) in Norfolk, inviting comparison and contrast as well as creating a regional data-base of early East Anglian castles.

3. Suffolk is rich in contemporary documentary sources with which to provide context and additional primary historical evidence, as well as excellent secondary sources.

2.8: The data-set

In light of the points raised above, a data-set of Suffolk castles was drawn up (Appendices 1.1-27, 2.0, Table 2.1). The chronological distribution of Suffolk's castles constrains the data-set to 11th - and 12th - century examples. There are strict chronological constraints operating on the study of English castles in general, for example that the majority of castles in England were constructed and operational prior to the 13th century, that the last royal castle was built at Queensborough, Kent, in 1300 (Armitage 1912: 351; Kenyon 1996: 8, 203) and that many castles were ruinous by the 15th -century (Thompson 1987: 170-8). It is argued that the majority of castles in Suffolk occur in the early 12th century and probably peaked in numbers during the civil war of 1135-53 (Martin 1999c: 58-9, 158). It is argued that there was a series of royal campaigns to suppress castles c.1135-54, 1157 and c.1173-6, which we know led to the destruction of several Suffolk castles (Madden 1866: 307; Stubbs 1868: 215; 1872: 182; 1879: 161; Luard 1874: 214; Howlett 1884: 102; 1889: 192-3; Warren 1973: 67-8). In addition, to Martin's list of castles, the National Sites and Monuments Record and the Suffolk County Council records have been examined to establish the following data-set for Suffolk, which is open ended as there are several other potential castle sites in Suffolk, for example, Colts Hall at Cavendish (Charge 1985: 4-29), Cumberland mount at Staverton Park (NSMR 21295) and Wade Hall at North Cove (NSMR 30550). However, there is a lack of evidence that any of these earthworks were castles and therefore are noted here but precluded from the data-set of Suffolk castles.

2.9: Towards a new theoretical model for the study of castles

Although Johnson's approach can claims about later castles in the post-medieval period, the points outlined above frustrate Johnson's methodology for the studying of early castles. Bearing this critique in mind, this thesis proposes an alternative set of criteria for the development of a theoretical framework. The first four requirements are that it must be based on some archaeological reality, it should include the environmental evidence available, it must account for the agency of those who built or lived in the castle and, finally, it should account for other associated archaeological features related to the castle or the castle-building dynasty. On their own, these four requirements do not offer enough of a coherent theoretical framework in which to study castles and it is therefore necessary to outline six additional conceptual criteria required to establish a generalising model.

2.10: The criteria for a theoretical model for the study of medieval English castles

The development of a theoretical model within which to study castles must meet six criteria:

2.10.1: Generality

The model must generalise in that it needs to not only explain the distribution, history and function of Suffolk castles but also other castle sites in England. It must be broad enough to encapsulate the vast amount and range of data. Unlike the pre-historians, the medievalist is faced by a wealth of data from many different and sometimes competing kinds of evidence. It is the encompassing and weighing of the different sources of evidence, rather than explaining the links between limited evidence, which is the major epistemological problem for all theoretical models when studying historical archaeology.

2.10.2: Appropriateness

Medieval studies are engaged in the examination of highly sophisticated, socially stratified societies that have left a mass of evidence. An appropriate theoretical model is therefore required that is capable of handling large amounts of different types of data drawn from numerous sources and disciplines in order to study this highly complex society and the phenomena of castles.

2.10.3: Multi-disciplinarity

This apparently contradicts the famous maxim of David Clarke that archaeological model must arise from the archaeology (Clarke 1968; 1973: 6-18). For the medievalist evidence arises from the archaeological feature, but interpretation is drawn from beyond the narrow confines of the single discipline of archaeology. Medievalists need to be familiar with the concepts and models current in other areas of medieval studies and other social sciences. Thus a multi-disciplinary approach is inherent in medieval studies and is crucial in understanding castles. Reducing the evidence of castles to just material culture excludes important data, which can distort the claims that can be made about castles. For example, Johnson's interpretation of the Great Abbey Gate c.1327 at St Edmund's Abbey as symbolic can only be achieved by forcing the data to fit his ideological position and by playing down the evidence of the building's internal and external defences (Figures 46-57). The most obvious aspects of these are the off-setting of the entire new building, so that it no longer lies at the bottom of a road with a steep incline, the inner and out-gate arrangement and the killing zone, including gun ports, evidenced between the two, as well

as the documentary evidence and local folk-tradition of its destruction (Lobel 1934: 215-31; 1935: 142-3; 152-4; Whittingham 1999: 9; 24; Johnson 2002: 125-6).

2.10.4: Verifiability

The theoretical concepts, data and evidence used must be explicit in order that others may test them and any model has to be parsimonious with the data and other evidence (Einstein 1933: 9). It is only possible to test the generalisability of something if the concepts or definitions deployed can reasonably travel from one case to another. Yet, as we have seen above some scholars, eager to apply a post-modern approach to castle studies, have in the process rejected the traditional approach to such studies. However, without explicit theoretical criteria it is impossible to challenge the post-processualists' data and without a clear theoretical context it is impossible to demonstrate how selective their evidence is. It should be noted that some of those who espouse a landscape approach are often simply adopting a truism. That human beings shape the landscape and the landscape shapes human beings is not a theoretical model, because it cannot be falsified. If it cannot be falsified, then it follows that it cannot be a testable and empirical theoretical concept (Popper 2002: 18).

2.10.5: Chronology

The archaeological remains of castles represent a phenomenon that occurred in the past. Many of the earth and timber castles have been subject to limited excavations, so that archaeological data with which to date them scientifically are sparse. For example, no timber has been recovered from any of the earth and timber castles in Suffolk. In addition, the morphology of some of Suffolk's castles, for example, Framlingham has been subject to considerable change (Coad 1971: 152-63; Plowman 2005: 43-50), which makes classical archaeological typology problematic. Furthermore, the time-consuming excavating methodology pioneered by Philip Barker at Hen Domen required to do justice to the archaeology of earth and timber castles, makes excavation prohibitively expensive (Barker 1977: 101-4; 1987; Barker and Higham 1982; Higham and Barker 2000; Higham 2004). As a result, most studies of earth and timber castles have been constrained to pre-existing data, interpreted in new theoretical ways, rather than the generation of new data.

Given these constraints, a concept of change over time is required to establish a temporal sequence and provide a chronological context for castle building and the development of castles. Moreover, a theoretical model must be able to distinguish between different scales of time, for example the lifetime of an individual, the duration of a society or culture and the life-cycle of a given environment.

The reason why an *Annales* approach is argued for is in part because it offers the most mature theoretical model of historical time available and is therefore a sharper theoretical tool than that provided by the neo-processualist model with its rather simplistic evolutionary division of time (Shennan 1992: 53-9).

However, the *Annales* approach is modified here by the adoption of the concept of punctuated equilibrium, which works at the long-term *longue durée* of the environmental and medium or societal/cultural/technological scales of time of the *Annales* approach, as well as the concept of dual inheritance, exemplified in the short-term *événement*, or individual biological scale of time by the prosopographies of castle-building agents.

2.10.6: Agency

Agency is a highly problematic concept, reflected in the plethora of different agency- models available that have been developed by different academic disciplines and theoretical positions. Although potentially post-processual, agency is a concept in medieval and castle studies that cannot be ignored, as Warren (1987: 10) notes: 'Lordship, in short, was authority personified' and this justifies the use of the neo-processual concept of dual inheritance model in this dissertation.

Bloch has stressed that the new elite were not socially homogenous (Bloch and Manyon 1978: 332). The agents of castle-building in Suffolk could be:

- a. The crown or royal officials, who were responsible for constructing Orford and probably Burgh, Ipswich and Walton castles (Appendices 1.4; 17; 23 & 27). Moreover, Eye and Haughley castles came into the hands of the crown during the 12th century and were subsequently granted for life to a series of royal favourites (Appendices 1.8; 15 & 16.3-4).
- b. Barons, who were responsible for the construction of the baronial *caput* castles at Bungay, Clare, Eye, Framlingham, Great Ashfield and Haughley (Appendices 1.2; 5; 8; 10; 12 & 15), as lordship centres for baronial honours (Sanders 1960: 3-4, 34-5, 43-4, 46-7 & 120-1).
- c. Those castles constructed neither as a royal castle or a baronial *caput* and here described as sub-baronial. Sub-baronial castles could be secondary baronial castles constructed in

addition to a *caput* castle, or castles constructed by either baronial officials or by those aspiring to baronial status, or unlicensed castles constructed without royal permission during periods of conflict. These include: Bramfield, Burgate, Creting St Peter, Desning, Finningham, Freckenham, Great Fakenham, Groton, Ilketshall St John, Lidgate, Lindsey, Milden, Nayland, Offton, Otley, Red Castle and South Cove (Appendices 1.1; 3, 6-7; 9; 11; 13-14; 16; 18-22 & 24-26). This suggests that 4, or 15%, of Suffolk castles had royal status, 6, or 22%, had baronial status and 17, or 63%, had sub-baronial status.

The decision to build a castle was made by an individual ‘gang leader’ (Dhondt 1963: 47-83; Honig 2001: 113-126), as part of the dynastic strategies informed by a culture of patrilineal inheritance (Walker 1976: 104-116) and the castle-builder’s political relationship to the crown or feudal overlord, in the case of sub-baronial agents, in a specific historical context. Agency operates at an entirely different chronological scale, at the short-term *événement* level of time. Moreover, apart from the principal agent (the crown or feudal overlord), a second form of agency is also at work in the construction of these castles, namely the agency of those feudal tenants or hired professionals who constructed the castle through their collective labour.

2.11: An *Annales*-inspired theoretical model for the study of castles

English medieval archaeology and history have remained reticent towards overtly theoretical approaches, leaving few examples to follow (Burke 1992; Johnson 1997: 23-4; Hatcher and Bailey 2001). By contrast, continental medieval historians have developed a series of models under the aegis of the *Annales* School, based upon the notion of time operating at three different scales (Braudel 1949). The history of the short term deals with the political context, events and individual agency. This level of history has been emphasised by later *Annales* historians (Duby 1973, Le Roy Ladurie and Bray 1978), who have embraced a more sympathetic approach to the individual, the small-scale and event-based narrative. The history of the medium term reflects the history of societies and cultures, which covers social, economic, agrarian, demographic, regional and social history as well as world-views or mentalities. The history of the long term illuminates the history of the environment, civilisations and peoples, and is referred to as the ‘*longue durée*’ (Braudel and Matthews 1980).

Underpinning the *Annales* approach adopted here is the notion of ‘Problem History’ (Bintliff 1991: 1-3; Burke 1986: 439-51; 1990; 1991: 233-48; Joyce 1991: 204-9; 1995: 73-91) that seeks to identify the interplay of these different time scales of the past. It should be possible, by following this theoretical framework, to analyse the claims of different approaches to castles

and test their validity at each level of time. Moreover, the *Annales* approach is broad enough to have historically encompassed several different theoretical positions and shifts in emphasis since its inception. It is thus a flexible and adaptive rather than a fixed and rigid theoretical model. The *Annales* model satisfies the theoretical criteria outlined above, namely it is a generalizing model, an appropriate theoretical model and can deal with the multi-disciplinary nature of the evidence. It also meets the requirement for the evidence to be verifiable and provides a division of time into long, medium and short term, which allows us to examine each of the other theoretical criteria in its appropriate temporal context.

2.11.1: Environmental and strategic considerations

The long-term evidence of the environment contextualises castles within a physical, regional and local framework defined by its topography, geology, hydrology and macro-flora. These criteria will play an important role in the analysis of the sample of six surveyed castles sites in this thesis. Furthermore, linked to a castle's environment is its relationship to communications and its control of significant areas, features or strategic points.

2.11.2: Structural, societal and cultural considerations

The medium-term chronological evidence of the county of Suffolk in the 11th and 12th centuries can be sub-divided into structural, cultural and social data. 1. Structural evidence includes the distribution of castles across the different 'pays' or environmental niches that are evidenced in the county, the amount of Domesday woodland at pig for each vill where a castle gets built and their settlement morphology. 2. Cultural evidence includes the technology available to the agent for castle building, the dynastic strategies castle-building families adopted and the *mentalités* current in 11th and 12th- century Suffolk. 3. Societal evidence is based largely on Domesday and other historical data to examine local populations, social demographics and density of population as well as the Domesday area of arable land and the tax area of the Domesday vill.

2.11.3: Agency and functional considerations

The short-term evidence of individual castles includes identifying the agent of its construction and his status by detailed prosopography, the political context of its creation, the choice of site and design as well as the castle's original function. Answering such questions will inform our understanding of the role of agency and the functional aspects of Anglo-Norman castles.

This approach clearly links the different levels of evidence with specific issues surrounding the castles and emphasises their interdependent nature, whilst offering an explanation of different

facets of the central question of my thesis. It further presupposes an interdisciplinary approach, both as a means of illuminating different aspects of the evidence and as a means of constraining theoretical claims.

For example, the *Annales* approach can be used to test the explanations of castles outlined earlier, as follows:

- a. The social control model draws on evidence from short-term history and only touches on the medium-term historical criteria with the notion of conquest to explain castles on a nation-wide basis.
- b. The processual social evolutionary model is more sophisticated, being based on medium-term evidence such as social and cultural explanations dealing with structural change, status and patronage. It interprets castles in terms of new notions of lordship and defines them as social, economic, legal and political centres. Explanations for castles are almost exclusively supported by medium-term structural evidence, with only the slightest attempt at analysis of regional variations.
- c. The symbolic-structuralist model of castles uses short-term evidence by its implication of notions of design and agency. It draws on medium-term evidence in examining the attitude of the non-noble population, the perception of lordship being promoted, the attitudes of the castle-building class towards lordship and the 'landscape of lordship'. However, it is weak regarding the effect of long-term evidence and its influence on castle-building.
- d. The post-modernist/post-processual model is focussed on short and medium-term evidence, but almost completely ignores the long-term evidence available when interpreting the phenomena of castles. As a result, the approach is almost exclusively focussed upon later castle sites because of the better sources of short and medium-term evidence for them.
- e. The geological model is strong on long-term evidence for castles but weak in dealing with medium-term evidence and virtually ignores the short-term evidence for castles.

Although all these different approaches offer interesting insights into the study of castles, they only produce partial explanation of them, do not draw from all the different levels of historical time simultaneously and they don't draw from them in a balanced way. In short, the evidence is selective, to the point of excluding *a priori* other possible explanations, whereas this thesis will

address all three levels of time in order to demonstrate how long, medium and short-term factors might offer a more holistic, contextualised and localised account for each castle.

2.12: Methodology

A sample of six castle sites in Suffolk were chosen, biased in favour of the smaller sub-baronial sites. These castles are more numerous but have received less study than the larger royal and baronial sites. The choice and number of surveyed sites was constrained by issues of access, ground cover, time and cost.

2.12.1: Short-term evènement and agency evidence

This was collected in the following manner:

- a. By means of a desktop survey of the existing literature, including primary, secondary and cartographic sources on each castle site, in order to identify land holdings of the castle recorded in the Domesday survey in 1086.
- b. By a desktop survey of all existing archaeological data from the English Heritage National Sites and Monuments Record (NSMR), the Suffolk Archaeology Unit Sites and Monuments Record (SAUSMR) and local museum service on each castle site.
- c. A general field reconnaissance of each castle site and its immediate environment in order to identify a castle's relationship to its landscape.
- d. A detailed topographical survey of each castle using a TC 307 Leica Total Station in conjunction with Liscad software in order to identify evidence of the topography of the castle's earthworks and construction.
- e. A prosopographic and bibliographic review of the castle-building dynasties to identify the individual agents of castle constructions and thereby the political context of castle building.

2.12.2: Medium-term societal: social, technological, cultural and mentalitiés evidence

This was collected through three desktop surveys of:

- a. The relevant literature, primary, secondary and cartographical evidence, of the county of Suffolk in the 11th and 12th centuries, in order to establish a societal and cultural context. This relied on comparative data from the Little Domesday Book, which gave a social breakdown in

1086 and which was compared with similar lists of social data created by Bury Abbey. It enabled the establishment of the larger land-holding patterns of the castle-building dynasties in a regional context. It also identified the different maritime landscapes and 'pays' found in Suffolk at this time. Finally, it examined how the largest lordship, the monastic Liberty of St Edmund, used the social institution of the knights of St Edmund to control castle-building agents by engaging them in a feudal relationship with the abbey.

b. The relevant archaeological data from the National and County Council Sites and Monuments Record and local museum service for 11th- and 12th-century Suffolk, in order to establish an archaeological context of what other material culture was established contemporaneous with castle-building.

c. The current literature from both published and primary sources to identify the society, culture and technology of 11th- and 12th- century Suffolk. As well as identify an important institution in Suffolk: the Abbey of St Edmund and the *mentalitiés* the cult of St Edmund created and developed by the Abbey during this period. Identification of the charter witnesses indicated structured political ties between different or subordinate dynasties within Suffolk in the 11th- and 12th centuries. Although such evidence was partial, it helped to establish patterns of dynastic feudal relationships within the county. Finally, to identify the technology that related to castle-building and castle-warfare during this period.

2.12.3: Long-term environmental or longue durée evidence

This was collected by desk top surveys of:

a. The topography, geology, hydrology and woodland resources of Suffolk, in order to establish an environmental context.

b. The historical geography of Suffolk and the communications links within it, with the rest of England and with the continent, in order to identify the region's pattern of communications. This allowed an examination of how castle sites relate to road, river and coastal communications.

This methodology met the theoretical model's requirements of providing for all three levels of historical time. It placed each site in its total context via a multiplicity of criteria, thus constraining and informing the interpretations that can be placed on the evidence. This allowed the interpretation of each facet of the castle under study to be interpreted in the light of current environmental, archaeological and historical knowledge. Finally it allows us to answer the

central question, which is: What were the catalysts and constraints operating upon castle building in 11th- and 12th-century Suffolk?

2.13: Original contributions of research project

2.13.1 In approach

Traditional approaches to castles had previously been narrowly focussed on specific aspects of castles arising from a nation-wide sample. Like Liddiard, this included a detailed study of a small sample in great depth, but unlike Liddiard, an *Annales*- inspired ‘total’ historical-archaeological study of Suffolk’s 11th- and 12th- century castles has been attempted here. Perhaps even more importantly, it follows an explicit theoretical framework when undertaking the county-wide study of early castles in order to create a testable model.

2.13.2: In survey

This represented the first academic survey of many of these sites since the Victoria County History illustrative sketch maps of 1901. It has been possible with the software now available to produce detailed maps of each earthwork that will have revealed important information on the morphology and construction techniques used in earth and timber castles. It has been further possible to use these castle maps to study their relationship to their landscape in order to identify the possible function of some of these sites.

2.13.3: Archaeological knowledge

This study has closed a gap in the national coverage of castle studies by producing a theoretically rigorous, multi-disciplined and highly detailed analysis of Suffolk’s important but neglected group of castles. No county-wide study of Suffolk castles had been undertaken for over a century, while our knowledge of medieval archaeology, castles, landscapes, survey techniques and theoretical models available has expanded enormously in the same period. In summary, the purpose of this thesis is model building, in order to test the various current claims made about the castles, establishes what constitutes the normative Suffolk castle and explain both their chronological and physical distribution.

Chapter 3.0: Suffolk castles and the '*longue durée*'.

3.1: Introduction

The purpose of this chapter is to examine the '*longue durée*' relationship between castles and their environment, which is defined in terms of the climate, topography, geology and hydrology, which in turn inform their local ecology. The objective is to identify the environmental and related constraints operating on building earth and timber castles in Suffolk between 1086 and 1200.

The links between a castle's location and its climate, topography, geology and hydrology were first suggested by Neaverson (1947: 51), based on his studies of the castles of North Wales. It is argued here that, despite the climate, topography, geology and hydrology of the Principality being different from East Anglia, Neaverson did produce a model for identifying environmental constraints operating on the location of castles. Moreover, his model can be advantageously applied in the warmer climate, with a lower rate of precipitation, subtler topography, geology and hydrology and different ecology, found in Suffolk.

This chapter also seeks to go further. By introducing the relevant historical structural, social, and cultural data at the middle level of Braudel's *Annales* model, arising from the evidence of the *longue durée*, it is anticipated that it will be possible to identify additional middle-range constraints operating on the normative earth and timber castles during the 11th and 12th centuries.

To this end this chapter will:

1. Establish the height of each castle site's location in the topography of Suffolk in order to compare their heights above Ordnance Datum (OD) and distribution across the county.
2. Argue that the solid and drift geology of Suffolk offers a strictly empirical and site-specific constraint on the location of castles in the landscape. Seeking to:
 - a. Identify the underlying solid geology of castle sites in order to identify the distribution of them across the solid geology of the county.

- b. Identify the drift geology of castles sites in Suffolk in order to identify the distribution of them across the drift geology.
- c. Identify the different combinations of solid and drift geology found underlying Suffolk castles in order to identify the distribution of them across these various combinations of solid and drift geology.
- d. Identify the suitability of certain soils derived from both the solid and drift geologies in the construction of earthworks and from this establish any relationship between the underlying geology and the morphology castles.

3. Argue that landscape studies of East Anglia have traditionally over-emphasised land against water. It will be argued that a hydrological constraint was operating upon Suffolk castles, because water-supply before the introduction of the modern mains-supply was highly problematic across Suffolk (Woodland 1946: 3).

Therefore, to identify the relationship between castles and their local hydrology this chapter will also:

- a. Identify the different river catchments in Suffolk.
- b. Identify the two different maritime environments found there.
- c. Identify the different rate of precipitation across the county.
- d. Identify the principal hydrological features relevant to water-supply including aquifers, the characteristics of the piezometric surface or water-table and the occurrence of perched piezometric surfaces.
- e. Summarise the archaeological and historical evidence for water-supply of castle sites in England and Suffolk.
- f. Identify the technology and hydrological characteristics of wells, ponds and mechanical pumps.
- g. Identify the navigability of Suffolk's rivers and their use as a transportation system in the 11th and 12th century.

4. Argue that a key aspect in the construction of earth and timber castles is timber-supply, type of timber and the carpentry technology available in 11th- and 12th- century Suffolk. In order to achieve this, the chapter will further:

- a. Identify the Domesday timber-supply in each vill where an 11th- or 12th-century castle is evidenced.
- b. Offer a new interpretation of the Domesday measurement of 'woodland at pig' that will suggest that, rather than a quantitative measurement of area, it is a qualitative measurement of the woodland resources available.
- c. Identify the significance of the carpentry technology in general and the simple scarf joint in particular for earth and timber castle building.

5. Using the environmental factors of climate, topography, geology and hydrology identified above, it will be argued that Suffolk in the 11th and 12th centuries can be subdivided into 'pays'. These 'pays' demonstrate distinct ecologies, structural constraints, cultural practices and social patterns during the medieval period that have been informed by their respective environments, and it is possible to identify the distribution of castles across these different 'pays'.

3.2: The topography of Suffolk

The key topographical feature of the county of Suffolk is that, in section, the southwestern side of the county is upland chalk hills of OD+90m. This topography gently slopes towards the eastern coastal region, where the height is generally less than OD+30m (Chatwin 1937: 34).

As a result, Suffolk has a subtle topographical relief; only a third of the county is over OD+60m and the rest less than this. The highest points in the county are in west Suffolk at Hartest, where the topography reaches OD+128m (TL787558) (Chatwin 1937: 34; Patterson *et al.* 1993: 2). The distribution of castles across the topography of Suffolk can be demonstrated (Map 3.1).

Liddiard (2000b: 6-9) has argued that the highest point in the medieval landscape is best fitted for defence. However, it has already been argued that water rarely occurs at the highest point in the Suffolk topography (Woodland 1946: 3 & 10) and that a water-supply is necessary for a castle (Neaverson 1947; Spurgeon 1987: 23-50; Ruckley 1990: 14-26; Burgers 2001). In addition, a castle requires a garrison, and human physiology, it is argued, requires that in order

to defend it for more than three-days a source of water is necessary, as each member of the castle's population requires a minimum of 4 pints (2.3 litres) and each horse 53 pints (30 litres) per day. The figures rise dramatically if the men or horses are engaged in rigorous physical activity (Medical Directorate, General Headquarters, India 1945: 157; Bachrach 1994: 266).

As we shall see below, the location of a castle in its local topography also has implications for the site's hydrology and water-supply. For example, the higher a site is in the topography, the deeper a well-shaft needs to be sunk in order to reach the piezometric surface. This restricted well sinking to low locations in the topography, before the introduction of mechanical boring, or to specific and highly localised geological conditions (Woodland 1946: 10 & 41). In addition, sinking deep wells was expensive, technically difficult and required constant repair work. Even modern lined wells have a limited life of only 10 to 50 years (Vince 1978: 5; Detay 1997: 246, 248 & 306).

3.3: The relative height above OD of Suffolk castle sites

Determining the precise height above OD of each castle site proved problematic. Although many of the figures are drawn from the English Heritage NSMR and SAUSMR, there appears to have been no standardisation in measurement of castle earthworks and their relative height above OD. For example, Clare castle has its relative height above OD in the NSMR taken from the top of its substantial motte (OD+61m). By contrast those castles without mottes appear to have been measured from their baileys; at Clare the bailey is located at OD+44m. This constitutes a considerable difference in relative height and has important implications for establishing a comparative data set. Moreover, some castle's relative height above OD recorded in the NSMR would appear to be simply inaccurate. For example, Desning is recorded by English Heritage as being at OD+91m whereas the current Ordnance Survey shows the castle site as being on the OD+100m contour (Ordnance Survey 1999c; NSMR Suffolk 118).

It has therefore been necessary to confirm the NSMR figures with the county's current Ordnance Survey maps to establish the relative height above OD of each of the castle sites. This is taken to be the height of the site rather than that of the top of the motte when establishing a data set of the height of each of Suffolk's castles, in order to compare those castle sites with mottes and those without. From the data-set of Suffolk castles constructed between 1086 and 1200 (Table 3.1) we can draw the following conclusions:

- Suffolk castles occur in the topographic range of OD+5m to +100m.

- The mean height of Suffolk castles is OD+37.8m; both the mean and median topographical evidence would strongly suggest that the majority are located at a relatively low position in the county's topography.
- The most frequent occurrence of castle is in the range OD+41-50m, representing 5 or 18.5% of data-set (Chart 3.1).
- Some 20 or 74% of Suffolk castle are located at or below the median point of +50m above OD and only 7 or 26% are located in the topography at OD+50m.
- By comparing the highest location in the topography of the parish and the height of each castle (Table 3.2), it is evident that not one castle in the data-set of twenty-seven castle sites is located at the highest point in the topography of its parish (Chart 3.2).
- An examination of the topography of each site shows that 85% of Suffolk castles are located on sloping ground, which allows the sites to be drained by gravity (Appendices 1.1-27).

This evidence would appear to confirm the hypothesis that the castles in the data-set were not constructed at the highest point in the topography as Liddiard (2000b: 6-9) had assumed and questions the assumption that the highest location in the local topography is the best fitted location for defence. It is argued that other factors than height are operating in the choice of castle sites in Suffolk during the 11th and 12th centuries, and it has been suggested that these include hydrological constraints.

3.4: Current knowledge of the geology of castles

Neaverson's study in north Wales established:

1. That the geological substratum was an important consideration in raising earth and timber castles, especially mottes. Consequently Norman castles in North Wales occur most frequently on deep drift deposits, which are restricted to the coastal plain and river valleys (Neaverson 1947: 17).
2. That isolated patches of suitable geology were identified and deliberately exploited by castle builders. For example, Beeston castle c.1220, which reputedly has the deepest

well in England, is constructed on the Mesozoic strata, consisting of an outcrop of Keuper sandstone, that overlies a stratum of water-bearing Bunter Sandstone (Neaverson 1947: 3-5; Halsall 2000: 17-21).

Neaverson's conclusions about the significance of geology were further advanced by Spurgeon (1987: 26-35), also working on Welsh castles, whose further research established:

1. That almost all the masonry castles in Wales started out as earth and timber fortifications.
2. That ring-works tended to be older than motte and bailey castles and that ring-works were used as an alternative to motte and bailey-type castles.
3. That ring-works were frequently constructed on areas of intractable subsoil.
4. That castle builders exploited geological features, for example drumlins or moraines, or man-made features, for example pre-existing cairns and defensive enclosures.
5. That motte and bailey castles, with one exception, occur on glacial drift or alluvium.

Halsall (2000: 3) recently suggested that geology has a determining effect upon the location of castles, and arguing (2000: 4-5) that an ideal fortress site required certain functional characteristics: availability of stone for building, a suitable geology for firm foundations, an adequate water-supply and a well-drained site. However, as has been outlined in Chapter 2.4.5., Halsall's geologically deterministic model is based on a limited sample of exclusively stone-built castles constructed on distinctive geologies, which does not reflect the normative building fabrics or more subtle geology associated with castles in East Anglia. It is argued here that, while geology is an important constraint, it is one mediated by other factors.

3.5: The geology of Suffolk

3.6: Solid geology of Suffolk

The solid geology of Suffolk has a direct effect in establishing the topographic form, drift geology and character of the county (Map 3.2).

3.6.1: Chalk

The dominant solid geology of Suffolk is cretaceous chalk; a marine deposition laid down 90-70 million years ago, which subsequently rose above sea-level by tectonic activity. Chalk is a pure, soft limestone from coccoliths of planktonic algae containing some beds of gritty texture consisting of the remains of bivalve shells, and it can occur up to a depth of OD-270m in the county (Pattison *et al.* 1996: 15-16).

The chalk contains buried channels. These are old deeply eroded, narrow and steep sided valleys. They are often associated with larger modern streams and valleys, including the Stour, Brett, Gipping, Lark, Ixworth and Waveney valleys. These buried channels are now filled by a drift geology of sands and gravels, which are often waterlogged and occur to a depth of -106m at Glemsford and -87m at Cavendish (Woodland 1946: 12-15).

The chalk is subdivided into strata; of upper, middle and lower chalk, and all three contain some relatively hard bands within them. Upper chalk contains Top Rock, Brandon and flint beds. The flint frequently occurs in great rafts and is the compressed fossilized remains of sponges and other marine micro-organisms (Chatwin 1937: 19-33). Flint is a important resource in East Anglia and has been mined in the region since prehistoric times. Flint and lime mortar, the latter produced by burning chalk, was one of the region's principal building materials in the 11th and 12th centuries (Trist 1971: 92b) and was extensively used for the exterior decoration of medieval Suffolk churches in a form known as flushwork (Warner 1996: 13). Middle chalk contains Melbourn rock beds and Lower chalk contains Nettleton stone, Cambridge Greensand and Tottenhoe stone or 'clunch' (Bristow 1990: 18). Clunch is hard enough to be cut into rough blocks and was used during the medieval period as a building material in Suffolk and in addition to Caen stone at Norwich castle keep c.1140 (Renn 1973: 259; Trist 1971: 92b).

Chalk has an important hydrographical role, as it is the principal aquifer in the west of the county (Moorlock *et al.* 2000: 89). This is because chalk is porous, drains by capillary action and consequently only oozes slowly from chalk. It has been calculated that 1 cubic foot (0.28 m³) of chalk can absorb two to two and half gallons (9.09 to 11.36 litres) of water, or 25% of its volume, before becoming saturated and impermeable (Woodland 1946: 34-35; Bristow 1990: 80). During the summer most rain evaporates rather than percolating into the deeper chalk, so that percolation is restricted to winter time, when run-off also occurs, but this is only evidenced in the bottom of valleys. As a result, the piezometric surface within the chalk has a seasonally variable range of +/- 2m (Pattison *et al.* 1993: 58).

Although water percolates freely it does not do so uniformly. Springs occur either where the water table overflow or where certain lithographic conditions prevail. Springs on the chalk escarpment offer the largest yields, where the slope is intersected by fissures in the chalk such as easily draining flint beds or where water-bearing Tottenhoe or Melbourn rock are exposed. By contrast, on the chalk dip slope springs are always found at the bottom of valleys, where the piezometric surface is higher than the local topography. However, the supply is far more moderate in yield (Woodland 1946: 43 & 46).

3.6.2: Lower London tertiary group

The lower London tertiary group underlies the London clay in the southeast of the county. Following a process of natural erosion and subsidence some 50 million years ago, a belt of early tertiary sands and clays formed along the prehistoric chalk coastline of Suffolk. Geologists have identified three sub-strata, the Woolwich, Reading and Thanet beds. The Woolwich and Reading beds overlie the Thanet bed. The Woolwich bed forms the upper layer of the strata and is identified as stiff, hard, red mottled clay. Under the Woolwich Bed is the Reading bed, which is identified as green glauconitic sands. Under both is the Thanet bed, which consists of volcanic materials, mainly rounded lava particles 0.05mm to 0.2mm in size, capped by a layer of well-sorted clay minerals (Ellison and Lake 1986: 9-10).

3.6.3: London clay

Suffolk's London clay district is the northern edge of a great belt of London clay that stretches from south western Suffolk across Essex to the Thames valley (Williamson 2003: 63). London clay characterises the solid geography of southeast Suffolk evidenced between the Stour and Orwell valleys. London clays developed in deeper waters further off the coast than the Woolwich, Reading and Thanet beds, at the then mouth of the prehistoric course of the river Thames. The deposition of London clay ceased when sea levels dropped, creating dry land, and tectonic activity further raised the land surface (Chatwin 1937: 34-6, Warner 1996: 16-17). Woodland notes (1946: 22) London clay is virtually impermeable and yields no water and in areas of London clay wells have had to be sunk or bored deep through the London clay to reach the piezometric surface in the lower London tertiaries beneath.

3.6.3.a: Septarium

Associated with London clay is the county's only suitable stone for cutting into ashlar blocks which is called septarium (Jope 1967: 91-118). Septarium is a soft limestone concretion formed by compression of London clay (Whitaker 1885: 101 & 133). It is characterized by radial and

concentric septa of coarse minerals within an argillic limestone or dolostone matrix and its scientific typology was established in 1788 (Hutton 1788: 246). A characteristic of the septarium is that when it weathers it erodes at a faster or slower rate weathered nodules are produced, depending on its composition, than the concretion matrix, and as a result in the characteristic deep ruts or raised 'veins' on its surface.

It is frequently quarried where exposed by the sea, for example, at Bognor Regis, Sussex, as well as at Weymouth, Radipole and Melbury Osmund, Dorset, and in the Alde, Orwell, Stour and Waveney valleys. Inter-tidal river or coastal locations, where this geology was covered at high tide but exposed at low water were the quarry sites, because a characteristic of septarium is that it is relatively easily cut when wet but hardens when it is exposed to air. It is exposed beneath the Coralline crag at Felixstowe, Orford, Bawdsey and Butley and surfaces in the Debden valley east of Woodbridge, along the Orwell, especially at Levington, and along the Stour as high up as Boxford (Whittaker 1885: 101; Chatwin 1937: 36; Kennedy 1964: 102-5; Brown and Colvin 1976: 770; Dietrich 1999: 226-270 & 335-340).

It is argued here that;

- i. Septarium is an important building material in a region that is poor in stone and is the only locally sourced building-stone, apart from flint and lime mortar, used in castle building in Suffolk, at Colchester, Orford, Bungay and Framlingham castles during the 11th and 12th centuries. It was also used from the late 12th century for Suffolk churches, for example at Orford and Chelmondiston (Whittaker 1885: 101; Brown 1964: 16; Mortlock 1992: 43-4).
- ii. Viable sources of septarium are limited to a few coastal locations, so that access to this resource was restricted both geographically and tenurially in the 11th and 12th centuries to castles constructed by the crown, as at Colchester and Orford, or by the Bigod family, as at Framlingham and Bungay. Even today the right to quarry septarium at Levington is reserved to the parish council (Mr Adrian Cotton former chairman of Levington parish council. pers. comm.).
- iii. The transportation, apart from by water, of any quantity of stone was in the 11th and 12th centuries an expensive and difficult undertaking (Leighton 1972: 94).

- iv. Only the royal castle at Orford was constructed entirely from stone from its inception and Framlingham rebuilt entirely in stone c.1190. Ten Suffolk castles between 1066 and 1200 evidence any stone element in their construction. This figure includes Bungay, Clare, Eye, Framlingham before c.1190, Freckenham, Haughley, Lidgate and Otley (Appendices 1.2; 5; 8; 10; 11; 15; 18 & 24) as well as Burgh and Walton, despite their being earth and timber castles built within the surviving stone walls of earlier Roman Shore forts (Appendices 1.4 & 27) Although these could be small elements in the castle complex, for example, Clare's stone element was the pre-existing manorial Church (Harper-Bill and Mortimer 1982), Framlingham and Haughley evidence early to mid 12th-century stone halls (Raby and Reynolds 1963; Renn 1992; SAUSMR HGH 001; NSMR Suffolk 29) and Freckenham had stone revetments around the entrance (NSMR Suffolk 30). Eye's, Lidgate's, and Otley's masonry is undated but assumed here to be from the foundation of the castle (NSMR 30594; SAUSMR LDG 002; SAUSMR OTY 002). As a result, of those castles in the data-set, only 4% were originally of all-stone construction. Another 37%, or 29% if Walton and Burgh are excluded, were of stone, earth and timber fabric. Therefore, some 55% were exclusively of earth and timber construction (Table 2.2). This suggests that in Suffolk earth and timber castles are the norm and that these were the dominant fabrics used in 92% of the data-set.

3.6.4: Crag

During the Pilo-Pliocene period (10-1.5 million years ago) the county was again submerged under a shallow tropical sea and a thick, shelly and micaceous sand was deposited, known as crag (Patterson *et al.* 1993: 33-4). Crag is the second most frequent solid geology found in the county and underlies most of eastern Suffolk. It occurs from 2.45m in depth to 60m depth at Fressingfield (TM26037730) and consists of the remains of marine and estuarine molluscs, including the bivalves *Glycimeris*, *Artctica*, *Cardium*, *Mya*, *Mytilus* and the gastropod *Neptuna*. These have been transported in tidal sand waves (Mathers *et al.* 1993: 11-12).

Where the crag has weathered it is yellowish to reddish brown in colour, weathering causing iron pans to form from iron oxides present in it and discolouring the sand (Moorlock *et al.* 2000: 31). Where the crag has not been weathered or is under the water table it is dark green in colour (Mathers *et al.* 1993: 11-12).

Crag is the principal aquifer for the eastern half of the county (Moorlock *et al.* 2000: 89), and its sub-divisions of Norwich, Red and Coralline crag share a common hydrographical character (Woodland 1946: 15). Furthermore, Woodland (1946: 19) notes:

‘Crag forms a single water-bearing unit with the early glacial sands and gravels...It should therefore be capable of yielding a fair quantity of water almost anywhere. However, for some reason which is not apparent, there is considerable variation in the water-bearing properties of the formation throughout east Suffolk and southern Norfolk’.

There are, Woodland (1946: 20) notes, numerous well shafts yielding 100 gallons (455 litres) an hour within 10-12 miles of the coast. However, sea water penetrates the chalk that underlies the crag and pollutes the supply. This effectively constrains the coastal supply of water to shallow wells excavated into crag, as water from the chalk aquifer is unfit to drink (Whittaker 1906: 9-10, 107, 118-9 & 150).

3.6.4.a: Sub-divisions of crag

Crag is sub-divided by geologists into three types: Norwich, Red and Coralline (Chatwin 1937: 37-48). Norwich crag is found as far south at Iken, Red crag is found between Iken and Walton on the Naze in Essex and Coralline crag is restricted to a small area at the interface of the Norwich and Red crag between Aldeborough and Boyton (Warner 1996: 17). Patches of crag occur across the county but is rarely found west of Cavendish (Patterson *et al.* 1993: 33-4).

3.6.4.a.i: Norwich crag

Norwich crag forms the upper stratum and is often difficult to distinguish from Red crag. It consists of a well-sorted fine to medium-grain sand with associated silts and clay and a ‘stone-bed’ of 0.3m consisting of brown-coasted flints. It is yellowish or reddish brown in colour and in places full of fossils. It was created in-shore in shallow marine and inter-tidal conditions (Chatwin 1937: 44-5; Mathers *et al.* 1993: 11-12).

3.6.4.a.ii: Red crag

This is a basal bed up to 2m thick of pebbles with cobbles of glauconitic flint overlaid with poorly sorted cross-bedded medium to coarse-grained ferruginous sands. It consists of more shelly or gravelly types, known as Sizewell or Thorpeness member. The iron oxide present in the Red crag gives it its distinctive colour. The shells are largely shallow water bivalves and gastropods, and it was created in off-shore conditions in a shallow and tidally dominated shelf

(Chatwin 1937: 41; Patterson *et al.* 1993: 33-4; Mathers *et al.* 1993: 12; Moorlock *et al.* 2000: 31).

Occasionally Chillesford sand member and Westleton beds are found associated with Norwich and Red crag. Chillesford sand member occurs up to 5m thick and consists of an unfossiliferous, pale to medium grey or buff silt clay laminate. Westleton beds occur up to 10m thick and consist of chatter-marked high sphericity flint pebbles and cobbles (Moorlock *et al.* 2000: 32-3). These are localised and, because they are clayey, produce little water (Woodland 1946: 15).

3.6.4.a.iii: Coralline crag

This is the oldest stratum of crag and is so named due to the high quantity of corals found within it. It consists of shelly sands and beds made up of finely-broken and in places complete shells, including bivalves, echinoids and brachiopods. Coralline crag is white to sandy in colour and was created in off-shore conditions in a shallow and warm sea. In Suffolk Coralline crag is almost exclusively limited to a tract between the Gedgrave marshes and Aldeburgh (Chatwin 1937: 39-41).

3.6.5: Kesgrave and Ingham sands and gravels

By c. 600 000 BC two major prehistoric rivers ran across the county: the ancestral Thames, which flowed across southeast Suffolk, and the Blytham river that flowed approximately along the course of the Little Ouse-Waveney valley. Both rivers fed into a prehistoric continental river system that is now submerged under the North Sea. These ancestral rivers deposited Kesgrave sands and gravels in southeast Suffolk and the Blytham River deposited Ingham sand and gravel beds in the Lark Valley (Wymer 1999a: 14-15).

3.6.5.a: Kesgrave sand and gravels

Kesgrave sand and gravels consist of braided river deposits laid down under periglacial conditions. They largely consist of pale-coloured quartz and other quartz- rich deposits and are found high in the topography at OD+ 30-40m, although they are frequently buried under later Anglian deposits (Mathers *et al.* 1993: 14-15). They have been described as unfossiliferous medium to coarse-grained sands, with pebbly seams and gravel lenses and commonly laminated silt and clay, occurring in beds up to 3m thick (Mathers *et al.* 1993: 15).

3.6.5.b: Ingham sand and gravels

Ingham sand and gravels consist of braided river deposits containing medium-coarse grain sand and an abundance of liver-coloured quartzite pebbles. Deposits are reported as 13.2m deep at Roydon. In contrast to Kesgrave sand and gravels, which here have a high location in the topography, Ingham sand and gravels are restricted to a low situation in the topography and are often associated with the bottom of valleys such as the Lark (Mathers *et al.* 1993: 16).

3.7: Conclusions drawn from the distribution of Suffolk castles across the solid geology of the county

- Simplified solid geology maps like Wymer's (1999: 17) are inadequate (Map 3.3), because they do not provide fine-enough detail, and the British Geological Survey 1: 50 000 scale maps have therefore been used to identify the solid geology underlying the castle sites in Suffolk (Table 3.3). Despite the more detailed data available from the British Geological Survey, it is impossible to reproduce an accurate county-wide map of the solid geology of Suffolk in this thesis for practical reasons of size, and because the geological data for the Brecklands and Shotley peninsular remain unpublished and led to the geology being estimated at Red castle, Thetford, using a larger scale geological map (British Geological Survey 1977). However, it is possible to conclude the following:
 1. 15 (56%) of Suffolk's castles are constructed on a solid geology of crag.
 2. 11 (41%) of Suffolk's castles are constructed on a solid geology of chalk.
 3. 1 (4%) of Suffolk's castles are constructed upon a solid geology of Lower London tertiaries.
- It is therefore argued here that the distribution of Suffolk's castles does not correspond to the frequency of occurrence of the solid geology in the county. The majority of the solid geology of Suffolk is chalk (Map 3.3; Trist 1971: 4, Wymer 1999: 17), yet only 41% of Suffolk's castles are located upon it. It is suggested here that the reason for this uneven distribution is due to the different relative depth of the piezometric surface in the chalk and crag solid geologies, which is determined by to the seasonal rate of precipitation, the surface topography and the permeability of the geology (Woodland 1946: 41). The areas of Suffolk with an underlying solid geology of chalk is associated

with the highest topography in the county, OD+128m, and can occur up to 270m in depth under the drift geology (Patterson *et al.* 1993: 2).

- By contrast, the topography in much of the eastern half of the county is lower and the underlying crag is shallower, although occurring in the 'Stradbroke basin' to a maximum depth of 60m (Mathers *et al.* 1993: 11). Its close association with a thinner Boulder clay drift or glacial sands and gravels means that the piezometric surface is closer to the surface and easier to sink wells into than chalk. However, running sand frequently back-fills the works, requiring wells in crag geology to be lined, regularly dug-out and cleaned in order to keep them functioning (Woodland 1946: 11-12, 20; Detay 1997: 105).
- There is only a limited supply of stone in the form of septarium available in Suffolk. This is geographically limited to tidal locations on the east coast of Suffolk, which were tenurially limited in the 11th and 12th centuries to the crown and the Bigod family. As a result, the vast majority of castles in Suffolk are earth and timber in fabric, a few of which contain stone buildings or elements during the 11th and 12th centuries. This not only suggests that stone construction is atypical in Suffolk but it is argued here that the normative castle was earth and timber and that these were subject to an entirely different set of constraints than stone-built castles.

3.8: Glaciations

The first Anglian glaciation occurred c.450 000 BC covering the entire county of Suffolk with material eroded and transported from Scotland. When the ice retreated, the courses of both the Blytham and Thames prehistoric rivers had been permanently diverted and the sea-level began to rise. A cycle of glaciations and warmer inter-glacial periods then followed until the most recent glaciation, which ended c.24 000 to 15 000 BC. Although the ice-sheet never actually reached East Anglia during the last glaciation, the process of advance and retreat profoundly affected the region, depositing the drift geology across the county, which was dominated by a thick till plain of boulder clay containing discreet lenses of glacial and fluvial-glacial gravels and sands. As this body of water melted, it covered Suffolk in a till plain of glacial moraines and gave rise to numerous sub-glacial streams under considerable hydrostatic pressure and created the Suffolk river system (Map 3.4). Moreover, the enormous body of water locked up in ice meant that the sea-level off the Suffolk coast was some 60m below its present level. Approximately 10 000 BC the North Sea coast lay north of Dogger Bank, but as temperatures increased the ice retreated and sea-levels increased until c.6500 BC, when the land bridge with

the continent was finally broken, leading to the inundation of the area and creation of the North Sea (Pattison *et al.* 1993: 39; Warner 1996: 17-19; Wymer 1999: 14-15, 18-19, 190 & 191; Shennan *et al.* 2006: 585-99; Lee *et al.* 2007: 345-5).

3.9: Drift geology of Suffolk

It is important to identify the drift geology of Suffolk (Map 3.5) for three reasons:

- Both the solid geology and the drift geology influence the piezometric surface, in part determining the availability of water supply and suitability of the sinking of wells in Suffolk.
- The drift geology is a source of one of the primary building component of earth and timber castles.
- The drift geology determines the frequency of ponds or wet moats.

The drift geology of the county determines the soil upon which a castle is constructed and the medium in which ditches are excavated and from which earthworks are raised. Soil is defined as the upper layer of the earth's mantle and is the product of several complex interacting processes, which are most intense near the surface (Hodges *et al.* 1984: 47). However, it is noted that different soils possess different characteristics that make them more or less suitable as a building material for raising earthworks. Certain soil types are unsuitable for constructing earthworks or ditches and others cannot be used in construction without shoring to prevent them collapsing. As a result, at Clare castle the wet ditches are cut into the peat drift geology of the river-valley, whereas the earthworks are raised from the solid geology of chalk, because peat cannot be raised as effective earthworks (Appendix 1.5, British Geological Survey 1991).

Using Engineering data from the Royal Engineers it is possible to draw up a list of the suitability or otherwise of different soils and their effectiveness as earthworks (The War Office 1962: 21). This information has been converted to metric and laid out as Table 3.4 and illustrated (Figure 23).

From this table we can identify that in Suffolk the ideal soil type for cutting ditches or steep angled earthworks is chalk. As a result, Lidgate and Great Fakenham castle have massive and

steep-sided internal dry moats cut into the underlying solid geology with excavated chalk rubble used to construct earthworks (Appendices 1.13; 18 & 15.3; British Geological Survey 1982a).

There are relatively few places in Suffolk where a solid geology of chalk is close enough to the surface to have castle ditches excavated into it. As a result, clay or an alluvial or fluvial-glacial soil, containing a mixture of clay, sand or gravel, is the favoured construction medium into which to cut ditches or on which to raise earthworks. In addition, for any ditch to contain water, an impermeable clay lining is required in order to prevent the water draining away, which again does not favour chalk, as it is permeable. Wet moats were probably constructed in the same way that Suffolk ponds were created, by placing clay in a ditch and using cattle to trample the clay down.

3.9.1: Lowestoft till

The surface geology of Suffolk is the product of a series of glacial cycles that lasted from c.470 000 to c.15 000 BC, when the retreating ice sheet left a landscape strewn with a moraine consisting of bluish-grey clay with yellow-brown mottles containing rounded chalk fragments, angular flints, vein quartz, limestone, septarium, mud-stone, iron-pan, fossils and igneous rocks (Hodges *et al.* 1984: 15-6; Moorlock *et al.* 2000: 61-2).

This drift geology of boulder clay is called Lowestoft till, and although in the past this has been subdivided, it is now considered as a single lithological unit (Patterson *et al.* 1993: 39). Despite this modern simplification, there are important variations in the soils that should be noted and are identified by parent material, texture of soil and distinctive mineralogy (Avery 1980, Clayden and Hollis 1984). These include: Barrow, Beccles, Beccles 3, Hanslope, Melford and Ollerton association soils (Hodges *et al.* 1984: 107-11, 117-8, 121-2, 209-11, 245-7, 284-8).

Lowestoft till overlays 8300km² of Norfolk, Suffolk, Cambridgeshire and Essex (Hodges *et al.* 1984: 12-15), covers two-thirds of Suffolk and occurs at Wickhambrook to the depth of 68m (Chatwin 1937: 57-8; Warner 1996: 10-11, 17-18; Martin 1999a: 20-1; Wymer 1999: 18-19; Williamson 2003: 26). The depth of this drift geology is exceptional; generally the Lowestoft till in Suffolk is only 10m deep and so shallow in places, such as the Breckland, Sandlings or on chalk escarpments, that the underlying solid geology is exposed (Hodges *et al.* 1984: 12).

The repeated advance and retreat of the ice-sheet produced vast amounts of water. The action of this ice-melt created melt-water lakes and river valleys. These processes left fluvial-glacial and river terrace deposits, most clearly evidenced at the edges of the till plain and contributing to

distinctively localised soils found in Suffolk. It is not unusual, even at OD+100m, to find patches of glacial outwash gravels, Lake or river alluvium overlying the Lowestoft till plain (Chatwin 1937: 64).

Lowestoft till contains little sand and has a medium to high plasticity. It contains within it laminated silts and tills, stratified sands and gravels, often of a glacial origin, and patches of chalk known locally as 'hussick' (Woodland 1946: 9; Mathers *et al* 1993: 20-25).

Direct percolation is least where the chalk aquifer is buried beneath a considerable thickness of relatively impermeable Lowestoft till and results in a poor water yield from wells located upon such geology (Woodland 1946: 50). There is almost no water in Lowestoft till itself, but in the underlying chalk and glacial gravels waters rise up well-shafts under an artesian head.

Moreover, the piezometric surface varies seasonally and topographically across the county. In the area of chalk overlain by Lowestoft till water occurs as springs where major fissures, often of flint, cut the surface, for example on the side of a valley, where the piezometric surface intersects the surface of the topography, either on the side of chalk escarpment or at the base of the chalk in river valleys (Hodges *et al.* 1984: 51). However, springs are sensitive to pecculation and seasonal variation in the piezometric surface makes them highly unreliable (Woodland 1946: 43-44).

The boulder clay restricts infiltration of rainfall into the solid geology of crag or chalk to 60-65mm per annum (Mathers *et al.* 1993: 34). The impermeable nature of some of the Lowestoft till soils, especially Beccles and Beccles 3 association, leads to the lateral flow of precipitation across the boulder clay plateau into the valleys (Hodges *et al.* 1984: 117-8 & 121-2).

Other Lowestoft till soils, such as Hanslope and Hornbeam 3 association soils, demonstrate a greater degree of permeability, leading to seasonal water-logging of such soils, and more water-retentive top soils become hard to work over a narrow range of moisture content, forcing cultivation to be timely. Finally, it must be noted that in the claylands of Suffolk the slopes are better drained and therefore drier locations than the plateau (Hodges *et al.* 1984: 51, 209-11; 221-3).

The boulder clay covers much of the chalk solid geology of Suffolk and Woodland (1946: 10) notes:

'Well-sinking in this formation is a very speculative proceeding since it is quite impossible to forecast the presence and position of a seam of water-bearing gravel. The discontinuity of these layers means, too, that even if water is obtained from a well at one site, there is no guarantee that a well to a similar depth, even close by, will meet with the same success. In the days before

boring became relatively common, and before the existence of piped public supplies, many shallow wells were dug for cottage and farm supply on the boulder clay plateau, but these were so unreliable that they generally had to be augmented by tanks catching rainwater from the roofs and by ponds, the latter often being the only means of watering stock. The plateau areas of East Anglia have always been notorious for their poor water supplies, bad seasons of drought being something of a local catastrophes’.

Woodland (1946: 11) adds that:

‘In the days before boring to the chalk became widespread and piped supplies began to be organised, very many shafts were sunk into the sands and gravels, especially where they were bare to the surface, or where they were over-lain by no great thickness of boulder clay. There seems little doubt that the sites of many villages in Norfolk, Suffolk and Essex were determined by the ease of obtaining water from these deposits’.

3.9.1.a: Gaults

Patches of glacial sand and gravels over- or under-lying the Lowestoft till are known as lenses, or locally as ‘gaults, galls or golts’. These are sometimes only several tens of meters across and frequently are too small to be displayed on geological maps, but they play an important hydrological role in the past, as they become waterlogged following periods of rain (Woodland 1946: 9-11; Forby 1970b: 129; Moorlock *et al.* 2000: 64).

By sinking shallow wells into gaults it is possible to access this perched piezometric surface. These are not true springs and are sensitive to seasonal variation in the piezometric surface. These high level gravels consist of highly ferruginous sands and siliceous stones but mainly of large poorly sorted flints in a loamy or clayey matrix 3m thick and are capable of rendering a small supply of water, although this may fail completely (Woodland 1946: 9-10). The difference between the high level gravels and river terrace deposits is that the latter are better sorted (Hodges *et al.* 1984: 16). These high glacial sand and gravel lenses or gaults are evidenced at four sites in the survey sample, at Burgate, Desning, Milden and Groton, by the subsequent exploitation of the last three locations as gravel or sand quarries.

3.9.2: Breckland sands

The Brecklands is an area covering some 1036km² in Norfolk and Suffolk (Clarke and Clarke 1974: 1). Glacial outwash denuded the Breckland plateau of Lowestoft till except in the far south of the soil region. The exposed solid geology was subject to cryoturbation and weathering to produce light, wind-blown chalky drift geology and a less sandy white chalk rubble, which near the surface of the rubble forms ridges and domes within the drift, causing patterned ground (Hodges *et al.* 1984: 17).

In the Brecks the chalky drift geology is 3-4m deep. In the southern Brecklands the soils are loamier and more till-like and contain sand, small fragments of chalk, tabular grey flint and other erratics from Lincolnshire. The formation of soils has been complicated by the erosive power of strong winds in a comparatively treeless landscape. Much of the soil is aeolian, re-deposited as a mantle of varying thickness covering un-eroded chalk. Where the chalk is exposed, it is subject to the process of leaching, further erosion and drift after the disintegration of the binding vegetation. The Breck soils are in a constant process of formation (Clarke and Clarke 1974: 3-4).

The area is characterised by a complex mixture of localised light calcareous and acidic sandy soils, with a poor hydrographical character of a deep chalk aquifer and highly permeable drift geology, making ponds infrequent. It has a relatively high topography of 15-55m, which covers most of the Brecklands. As a result, the piezometric surface was only accessible in the past in the river valleys (Dymond 1968: 19), where shallow wells could be sunk into aquifers that were close to the surface. The only water available on the Breckland plateau was from naturally formed and rarely occurring glacial ponds known as a 'pingoe' (Sussams 1996: 3).

3.9.3 Coastal sands

Maritime and riverine erosion, scouring, drift and deposition have profoundly altered the coastline of Suffolk since the 11th-12th centuries. The processes of long-shore drift created enormous shingle spits like Orfordness and blocked the medieval ports of Dunwich and Frostenden from the sea. Erosion has subsequently destroyed most of the medieval archaeological remains of Dunwich and another medieval port at South Cove. Marine clays are evidenced on the Alde, Deben and Orwell rivers. In the Fenland, Broadlands and the river Blyth a series of marine transgressions *c.*3000 BC, *c.*AD 300-400 and *c.*AD 1200-1300 is evidenced by marine alluvial clays overlying peat horizons (Green and Hutchinson 1961: 134-5; Delibrias and Guiller 1971; Everard 1980: 1-23; Porter 1981: 353-361; Hodges *et al.* 1984: 19-21; Williamson 1999: 7).

In eastern Suffolk the underlying geology is of crag, which is occasionally exposed to form the drift geology as on the Lothingland peninsula. This is sometimes covered by a poor aeolian drift, a thin silty deposit, found in hollows to a depth of 2m. It holds water poorly and is associated with the coastal heathland (Hodges *et al.* 1984: 17). Patches of freely-draining, neutral or calcareous loams also occur especially in Colneis hundred, of which Arthur Young wrote at the end of the 18th century:

‘This corner of Suffolk is to be recommended for practising much better husbandry than any other tract of country with which I am acquainted...their culture of carrots, their breed of horses, are circumstances peculiar, nowhere else to be seen’ (quoted in Trist 1971: 111).

The numerous valleys of the eastern coastline of Suffolk are characterised by a complicated distribution of maritime and riverine alluvium and peat deposits North of the river Deben the water supply within five to seven miles of the coast is affected by saline pollution because the underlying chalk geology percolates sea-water, making the water unfit for domestic consumption, although it is good enough for stock (Woodland 1946: 61). On the Lothingland peninsula the problem of saline pollution is amply evidenced by the numerous failed attempts to sink a well at Lowestoft (Whitaker 1909: 87-90, 154).

3.9.4: Marine and estuarial peats

Peat occurs in both the river estuaries and Fenlands of Suffolk and is created from the remains of brushwood and reeds (*Phragmites australis*) and Great Fen sedge (*Cladium mariscus*). It was excavated for fuel in the past within the Broads, Fens, Blythe and Waveney rivers, creating turbaries and the Broads themselves (Smith 1961: 63-112). Moreover, until the draining of the peat fens of Suffolk caused the peat to shrink to OD -1m or lower, it stood between OD +3m and +5m (Hodges *et al.* 1984: 18-19).

Surprisingly in all the Fenlands, rivers and estuaries of Suffolk little water can be obtained from peat except where it overlies gravels and sands. In tidal estuaries the water is brackish (Woodland 1946: 63) and in the Fens shallow wells and ditches catch surface drainage, resulting in a poor quality, seasonal and easily polluted water supply. Woodland (1946: 8) notes that the Isle of Ely is now supplied from Isleham and that, as a whole: ‘The area is extremely badly off for local water supply’. However, it should be noted that areas of peat soils occur along the course of many of Suffolk’s rivers and sometimes deep inland, for example, Clare castle is partly located upon peat on the river Stour and at Great Fakenham it adjacent to ‘Castle Fen’ on the river Blackborne (British Geological Survey 1977; 1982a; 1991).

3.9.5: Alluvium

Alluvium is rare in the river-valleys of Suffolk. It is more common to find peats, outwash sands or calcareous silty alluvium (Hodges *et al.* 1984: 20). The alluvium that is found consists of a stiff, brown-mottled, variably sandy and silty clay deposit 1-2.2m thick. It overlies terrace or other river gravels and is linked to humic clay and peat soils (Mathers *et al.* 1993: 32). Some of these alluvial deposits can be 9m deep and run far inland, especially in the Stour, Gipping and

Deben river valleys, but can be subject to saline pollution (Chatwin 1937: 66-7; Woodland 1946: 63).

3.10: Conclusion from the distribution of castles across the drift geology of Suffolk

It is possible to map the distribution of castles in the 11th and 12th centuries across the different drift geologies of Suffolk (Map 3.6). Like the solid geology, the broader categories suggested by traditional regional surface geological or soil maps are simply not detailed enough to make empirically accurate claims about the drift geology of individual castle sites (Wymer 1999a: 16-7, 18-9; Darby 1971: 157-9; Williamson 2003: 26). To identify the drift geology of individual castle sites requires the 1: 50 000 series Geological Survey maps and field walking of the individual sites (British Geological Survey 1981, 1982a, 1982b, 1990a, 1990b, 1991, 1995, 1996a, 1996b; 2000). It has already been noted that coverage of Suffolk is not complete and that the geological maps for the Shotley peninsular and Brecklands are yet to be completed. The lack of coverage by the British Geological Survey 1: 50 000 scale maps means that Red castle and Thetford castle have had to have their drift geology estimated from the British Geological Survey 1: 625 000 scale map (British Geological Survey 1977). With the information available it is possible to tabulate all the castle sites in the data-set and their drift geology (Table 3.5.), from which the following conclusions can be drawn.

1. 14 (52%) are constructed upon a drift geology of Lowestoft till.
2. 4 (15%) are constructed upon a drift geology of river terrace gravels.
3. 3 (11%) are constructed upon a solid geology of crag.
4. 2 (7%) are constructed upon a drift geology of glacial or glacio-fluvial sands and gravels.
5. 2 (7%) are constructed upon a drift geology of alluvium.
6. 1 (4%) is constructed upon a drift geology of peat.
7. 1 (4%) is constructed upon a solid geology of exposed upper chalk.

These data suggest that fourteen or 52% of the castles in the data set are constructed upon a drift geology of Lowestoft till. It has also been noted that the majority of Welsh motte and bailey castles were located upon a drift geology of glacial drift deposits or alluvium. In Suffolk twenty-two, or 81%, of the castles in the data-set are located upon a drift geology of Lowestoft till or glacial sands and gravels or on alluvium or river terrace deposits. Finally, of the

remainder, four, or 15%, of the castles in the data-set had no drift geology but were raised from a solid geology of chalk or crag, while one, or 4%, is located on a shallow drift geology of peat.

3.11: Conclusion from the topography, solid and drift geologies of castle sites in Suffolk

It is possible to compare both the solid geology, the drift geology and relative height of castles in Suffolk (Table 3.6) and draw the following additional conclusions:

- Five, or 19%, of the castle sites were constructed on the most frequent geological combination of drift and solid geology found in Suffolk, which is chalk overlaid by Lowestoft till. These castle sites all occur in the topographic range of OD+36m and OD+100m. This gives them a mean height of OD+63m, which is substantially higher than the mean height of OD+37.8m in the data-set of Suffolk castles.
- Ten, or 37%, of the castle sites in Suffolk were constructed on a drift of Lowestoft till overlying a solid geology of crag. This is approximately the frequency of this combination of geologies that occurs in the county. These castle sites all occur in the topographic range of OD+10m and OD+61m, which produce a mean height OD+40.9m, approximately equal to the mean height of the data-set.
- Twelve, or 44%, of the Suffolk castles are located upon a combination of geologies other than the two most frequent combinations of geologies evidenced in the county. These castle sites all occur in the topographic range of OD+5m and OD+73m. This gives them a mean height OD+24.6m, which is substantially lower than the mean height in the data-set. Four of these castle earthworks, at Great Fakenham, Orford, South Cove and Walton, were raised not from their drift but solid geologies.

An explanation of this bias is suggested by Woodland (1946: 9), namely that it was almost impossible to successfully drive a well through the boulder clay and into the depth of chalk to find the piezometric surface. It is argued here that the locating of castles with a drift geology of boulder clay and a solid geology of crag was advantageous, as it allowed the castle builders to drive relatively shallow wells through the clay surface into the shallower piezometric surface of the crag geology. Even then, yields are low, they are subject to iron-pan or saline pollution within five to six miles of the coast, the piezometric surface is subject to seasonal fluctuation and running sand means it is necessary to frequently clean

the well to keep it functioning (Woodland 1946: 15-21 & 61). It is argued that these results suggest that atypical combinations of drift and solid geologies were selected because these geologies occur relatively lower in the topography of Suffolk and therefore closer to the piezometric surface.

3.12: Earthwork technology

The solid geology of the county determines the drift geology upon which a castle was constructed and which in turn influences the soil from which ditches are excavated and earthworks are raised (Map 3.7). For geologists soil is a specific term used for any rock waste produced *in situ* by weathering processes, which is known as a sedentary or residual deposit. Soil is here defined as:

‘the upper layer of the earth’s mantle and is the product of several complex interacting processes, which are most intense near the surface’ (Hodges *et al.* 1984: 47).

Engineers have a wider and looser definition of the term ‘soil’ that includes transported sediments, for example: water-transported sediments (alluvium); wind-transported sediments (dunes or loess); ice or ice-melt water transported sediments (till or glacial drift); and material transported down a slope by gravity (colluvium) (McLean and Gribble 1983: 60).

Different soils possess different characteristics that make them more or less suitable for raising earthworks. Certain soil types are unsuitable for constructing earthworks or ditches and others cannot be used without shoring to prevent them collapsing. Soils are characterised by a triangular mechanical composition diagram (Ministry of Defence and Institute of Civil Engineers 1976: 66; Figure 24).

3.12.1: Allowable bearing pressures

‘The type and depth of the foundations selected for a specific engineering structure is determined both by the requirements of the structure and by the underlying geology. All buildings need a stable foundation, which has adequate strength and minimum deformability... The main factors, therefore, which need to be established at a site are the thickness and properties of the overburden cover, the properties of the bedrock and influence of weathering, and the depth of the water-table’ (Ministry of Defence and Institute of Civil Engineers 1976: 197).

Table 3.7 demonstrates the suitability of different solid and drift geology upon which to construct castles or other structures. It would suggest that the dominant types of solid geology of the county, crag (a soft sandstone) and chalk (a hard chalky limestone), have a lower maximum bearing pressure than other types of solid geology. It also demonstrates that a drift

geology of compacted well-graded sands and sandy gravels (alluvium, glacial sands and gravels, river terrace gravels) and very stiff clay or firm clays (Lowestoft till) have a higher maximum bearing pressure than firm clays and sandy clays, loose uniform sands and very soft clays or silts, which are all more easily deformed under pressure. It should be noted that excavated mottes sometimes have a base layer of rammed chalk or clay or even turf as a foundation (Renn 1973: 14), as a result the simple model outlined above does not account for the use of a combination of several different soils used in constructing the motte at Baille Hill, York (Addyman and Priestley 1974: 123).

In addition, if the moat is designed to hold water, it must either be dug in impermeable clay or constructed lined with impermeable clay or low enough in the topography to intersect the piezometric surface. Moats could be constructed in the same way as ponds were traditionally constructed in Suffolk, by placing clay into the freshly excavated ditch which was then trodden down by cattle. Ponds or moats in a low location in their local topography can also be supplied by surface run-off. Domestic drinking ponds known as 'pulks' are frequently associated with isolated farmsteads and supplied water to many cottages in Suffolk in the past (Forby 1970b: 263).

It is known there were mitigating engineering techniques that could be used in the construction of earthwork and timber fortifications from unsuitable soils, for example revetting the earthwork with turf or the constructing substructures or superstructures within the earthwork to provide an artificial angle of rest. Timber revetments of earthworks are evidenced at South Mimms, Winchester, Wallingford, Bedford, Baille Hill and Aldringham (Kent 1964; Biddle 1970: 291; Webster and Cherry 1973: 159-60; Addyman and Priestley 1974: 123; Baker and Baker 1979: 51-5; Davison 1969b). Stone revetments of earthworks are evidenced at Stamford and Farnham castles as well as at Freckenham in Suffolk (Mahany 1976; Thompson 1960; NSMR Suffolk 30; Appendix 1.11). Timber and stone revetments are both evidenced in the construction of the motte at Goltho (Beresford 1987: 101-3).

Renn (1973: 14) has suggested that different soils were used in the construction of earthwork mottes and that they were sometimes capped in a layer of impermeable clay as a water-proofing layer to protect underlying lighter soils used to raise the motte, as the clay helped to maintain the correct moisture level within the soil matrix of the earthwork by sealing the enceinte of the earthwork under an impermeable clay cap. This appears to be the case at Milden and South Cove castles, where the sand and gravel earthwork mottes have slumped into their ditches, perhaps as the result of the clay capping layer having been eroded or subsequently destroyed

and where the underlying material used to construct the motte was exposed and subject to erosion (NSMR Suffolk 111; Appendices 1.20 & 26).

For the raising of earthworks or excavations in clay engineers have produced the following table (Table 3.8). Using these data, engineers apply a simple calculation to calculate the maximum vertical face of clay (Ministry of Defence and Institute of Civil Engineers 1976: 253).

$$H_{crit} = \frac{4c}{\gamma g}$$

Where: c = undrained shear strength Kn/m^2 ;

γ = approximate wet density Mg/m^3 ;

$g = 9,81 \text{ m/s}^2$

This equation requires tension to develop in the clay, and in the absence of this tension the critical height is reduced by one third to:-

$$H'_{crit} = \frac{8c}{3\gamma g}$$

In both cases these calculations are only for short-term excavations due to: a) the effects of weathering and softening of the clay, b) lateral creep of clay over time. Moreover, alluvial clays are very soft, whereas, by contrast, the boulder clay glacial till in Suffolk ranges from stiff to hard (Ministry of Defence and Civil Institute of Engineers 1976: 254). This information allows the production of a calculation for the maximum critical height for earthworks constructed from different clay soils found in Suffolk (Table 3.9.).

3.12.2: The angle of rest of different soils

The maximum critical height is informative, but the angle of rest of different soils is also important as this influences the width of any enceinte and therefore area of the castle. Using field engineering data from the Royal Engineers, it is possible to draw up a list of different soils and their angle of rest (The War Office 1962: 21). This information has been converted to metric and laid out as a table to establish the angle of rest of different types of soil and this will allow us to judge their effectiveness and suitability for constructing earthworks (Table 3.4, Figure 23).

There are some castle sites in Suffolk where the solid geology is too deep to have castle ditches excavated into it; consequently a clay or alluvial or fluvial-glacial soil containing a mixture of clay, sand or gravels is used for the construction of ditches and earthworks. In other locations there is no drift geology so that ditches and earthworks are constructed from the solid geology of chalk, as at Great Fakenham, or from crag, as at Orford, South Cove or Walton.

Different geologies have special characteristics when constructing ditches and earthworks that should be noted.

3.12.2.a: Sands and gravels

‘Dry uncemented sands and gravels will not stand vertically but will fall back to a natural angle of repose which is an inherent property of the material and is independent of height’ (Ministry of Defence and Civil Institute of Engineers 1976: 254-5; Table 3.10).

However, where sands and gravels are mixed with clay, are cemented as crag or are formed from river terrace geology they can be suitable for raising earthworks or excavating ditches.

3.12.2.b: Chalk

Chalk can stand vertically, but because of the hygroscopic properties of chalk it is subject to water absorption, which will lead to the chalk dissolving and running when saturated. In addition, the presence of water aids frost action on chalk, and frost damage can occur to the solid geology to a depth of 30m (Ministry of Defence and Civil Institute of Engineers 1976: 256).

From (Table 3.4) we can identify that in Suffolk one of the ideal geologies for raising earthworks or cutting ditches is chalk. For example, Great Fakenham and Lidgate castles have massive chalk enceintes and steep-sided dry moats cut into the underlying solid geology. Moreover, excavated chalk rubble can also be raised into steep-sided mottes, as at Thetford, where this earthwork is 25m high and 90m in diameter (Sussams 1996: 92).

3.12.2.c: Loess

Loess consists of fine aeolian material of a unified grain size, weakly cemented and loosely packed. It is liable to collapse due to water action, including precipitation and is therefore an unsuitable geology for castle building, as it will not stand as an earthwork or ditch without revetting (Ministry of Defence and Civil Institute of Engineers 1976: 257).

3.12.2.d: Peat

Peat is an excellent medium to excavate in but suffers from compression as the soil dries out. Due to the high piezometric surface in peat compared with other soils, it is not a suitable drift geology for earth fast timber construction and it will not stand without revetting (War Office 1963: 21; Ministry of Defence and Civil Institute of Engineers 1976: 258).

3.12.2.e: Clays

All soils containing clay require close moisture control to prevent cracking and potential collapse. In addition, clay with either a medium or high plasticity can be easily squeezed out of shape, so that clay soils with a high plasticity, such as London clay, will require revetting in order to construct earthworks (War Office 1963: 21). In Suffolk the geology most suitable for raising earthworks and excavating ditches is where an underlying shallow solid geology of crag or an intermediate geology of glacial sands and gravels influences the overlying Lowestoft till or where a river terrace geology contains the correct proportion of sand, gravel and clay.

3.13: Earthwork technology conclusion

- It is argued here that the best geologies for constructing earthworks in terms of the maximum critical height to which the castle earthworks can be raised and the angle of rest of the earthwork and its ditches in Suffolk are: 1. Chalk. 2. A mixture of sandy gravels or sand or gravels and clays such as are found on river terraces. 3. Stiff or very stiff Lowestoft tills, containing a relatively high percentage of sands and gravels, for example where 'gaults' occur or where a solid geology of crag influences the drift geology. Moreover, Lowestoft till has the advantage of being impermeable and therefore better suited for constructing wet moats compared to chalk.
- Where other geologies are used to construct earthworks some form of revetment, for example clay capping, timber super- or internal-structure or stone revetment, was probably required so that these other geologies could be raised and maintained to a reasonable height and angle of rest. However, clay suffers one major disadvantage as a building material, as it weighs, at 125 lb per cubic foot (2024.8kg), even more than concrete at 120 lb per cubic foot (1943.7kg) (Medical Directorate, General Headquarters, India 1945: 524). It is concluded that, in the absence of any source of power other than manual labour, there must be a link between castles and the manpower potential of the contemporaneous population. It is argued here that high levels of

absolute Domesday population are a characteristic of those villis in 1086 that evidence castles between then and 1200. Therefore, that in Suffolk a substantial local labour force appears to have been a prerequisite for castle-building.

3.14: Geology and the morphology of Suffolk castles 1066 to 1200

With the information outlined above it is possible to identify links between the morphology of castles in the data-set and the geology of their sites. Establishing the original morphology of Suffolk castles is problematic as several, such as Bungay, Framlingham and probably Eye (Appendices 1.2; 8 & 10), appear to have been substantially rebuilt between 1066 and 1200 (Braun 1991, Reeve 2001, Coad 1971: 152-63, Brown 2002, Paine 1993: 4-5; Mayhew 2003b: 457-8), whilst others have had their morphology considerably altered since. Of the twenty-seven castles in the data-set (Map 3.8) the morphology of four, at Ipswich, Lidgate, Lindsey and Offton (Appendices 1.17-19 & 23), are unknown between 1066 and 1200. Ipswich was destroyed in 1153 (Stubbs 1872: 181; Stevenson 1875: 17, Arnold 1879: 288, Howlett 1884: 89 & 94, Stenton 1930: 124-8 & 154), no earthworks survive and the only indication of its location is the place-name Castle Hill. Lidgate castle earthworks evidence a major re-building after c.1200, when the original Anglo-Saxon church within the castle was replaced by the current early 14th-century building (Mortlock 1988: 138-141; NSMR Suffolk 125, SAUSMR LDG 002-004; Figure 11). Adam I de Cockfield's castle at Lindsey had a new licence to crenellate issued by King John to Thomas de Burgh c.1204 (Hardy 1844: 104). Finally, Offton occurs as a single square wet moat and appears to survive as a medieval moated-site, which probably replaced the earlier castle. Moreover, this is the weakest castle site in the data-set, its identification dependent on the place-name (Lyte 1923: 1151, Johnson and Cronne 1956: 338, Redstone 1937: 78-80.). Other castles like Bungay, Burgh, Clare, Eye and Framlingham have also changed since c.1200 (Braun 1991, Reeve 2001, Johnson 1978 & 1983, Pounds 1994: 21, 61-2 & 138, Pevsner and Radcliffe 2000: 166-7, Coad 1971: 152-63, Brown 2002, Paine 1993: 4-5 & Mayhew 2003b: 457-8), but archaeological investigation and standing earthworks here demonstrated the presence of mottes in the period 1066 and 1200. Moreover, the motte at Walton is suggested by a 17th-century plan (Wall 1911: 587-8 & 589, Fairclough and Plunkett 2000: 420; Appendix 1.27) and Creting St John ring-work is shown on the six-inch to a mile 1st edition Ordnance Survey map (Ordnance Survey 1891: *Suffolk Sheet LVI SE*; Appendix 1.6). This allows us to identify and categorise the morphology of twenty-three Suffolk castles in the period between 1066 and 1200 (Table 3.11, Map 3.8).

From these data we can establish that 13, or 57%, of castles in Suffolk have a motte and bailey morphology, 7, or 30%, are ring-works and 3, or 13%, had unique morphologies. The latter

classification includes the first all-stone and purpose-built royal castle at Orford, the South Mimms motte and tower at Groton and the Abinger-type motte at South Cove (Figures 16-18; Appendices 1.14; 23 & 26). It should be noted that all the baronial castles were originally motte and bailey in form but that half the motte and bailey castles were not baronial *caputs* and that no baronial *caput* castles in Suffolk originally had a ring-work morphology between 1066 and 1200.

When we introduce the solid geological data to the list of twenty-three castle sites (Table 3.12) we can see important patterns in the data relating to the castles' morphology and the underlying geology. Of the thirteen motte and bailey castles, ten, or 77%, are located on a solid geology of crag compared with three, or 23%, located on chalk. This is surprising because, as noted above, two-thirds of the county has a solid geology of chalk. By contrast, of the seven ring-works, three are located on crag, a further three on chalk and one on a solid geology of lower London tertaries. Therefore, there is a clear bias in favour of a solid geology of crag underlying Suffolk's motte and bailey castles, whereas ring-works occur more evenly across the solid geology of the county.

The most frequent drift geology of motte and bailey castles is Lowestoft till (Table 3.13), which occurs underlying 8, or 62%, of these Suffolk examples. The remaining five sites have a wide variety of drift geology, including, glacial sands and gravels, peat, river terrace gravels and one where the solid geology of crag forms the drift geology. In addition, half the ring-works occur on Lowestoft till, and river terrace gravels underlie a third of the ring-works.

When we combine the data of morphology, solid and drift geology (Table 3.14) we notice a rather striking pattern in the data, where we can identify all three pieces of information. The most frequent morphology is motte and bailey, the most frequent combination of geology in the county is Lowestoft till overlying chalk (Map 3.9) and yet only one motte and bailey castle at Desning (Appendices 1.17 & 15.1) is located upon this combination of geologies. Even then the survey of Desning earthwork has demonstrated that an intermediate geology of glacial sands and gravels underlies the shallow drift of Lowestoft till and overlies the solid chalk geologies (Appendix 15.1.2.c, Figures 76-77). Furthermore, no Suffolk ring-work was constructed on this combination of geologies. This negative evidence can only suggest that for some reason castle-builders deliberately avoided the most frequent combination of geologies when choosing a site for castle building. It is argued that, apart from river valleys where chalk is exposed or close to the surface where the drift geology is shallow, springs are relatively rare or highly seasonal in most locations where these geologies occur and the aquifer lies too deep for wells to be sunk.

3.15: Climate and Precipitation in Suffolk

Suffolk's climate can be characterised by long, sunny, warm and droughty summers, only broken by the occasional intense storm and contrasts with the dry, cold and windy winters, accompanied by hard frosts or snow that last even into the spring. In both seasons the defining characteristic of Suffolk is one of the lowest rates of precipitation in England, this suggests that water-supply was an important constraint operating upon castle locations in the county (Trist 1971: 42; Glenn 1987: 27-61).

All water ultimately comes from precipitation (Figure 25). There are a number of different county rainfall maps, (Whitaker 1906; Woodland 1946: 76; Trist 1971: 43 and Hodges *et al.* 1984: 13). This can be demonstrated by merging Woodlands' data for Bury St Edmunds and Rendlesham c.1881 to 1915 with Trist's data for Bury St Edmunds and Woodbridge 1915 to 1950. This establishes that the mean annual rainfall in Bury St Edmunds was 634.49mm and at Rendlesham-Woodbridge 601.73mm per annum c.1881-1950. Not all the rainfall surveys are consistent, for example, recent calculation of the annual rainfall at Bury St Edmund gives the figure of 633mm per annum (Bristow 1990: 81).

There are local variations in rates of precipitation within the county. The lowest annual rainfall occurs within 2-3km of the eastern North Sea coastline, an area also characterised by more hours of sunshine and less variation in temperature during the course of the year (Hodges *et al.* 1984: 27). The Brecklands have a rainfall of 660mm per annum (Sussams 1996:5). The South Suffolk claylands around Sudbury have a rainfall of 600mm per annum (Pattison *et al.* 1993: 58). The Fens have a low annual rainfall of less than 600mm per annum (Hodges *et al.* 1984: 31). In the Broadlands the Lothingland peninsula also has a low annual rate of precipitation at 600mm (Moorlock *et al.* 2000: 94). The High Suffolk claylands around Diss have the highest, an annual rainfall of 850mm per annum (Mathers *et al.* 1993:34). Finally, the central Suffolk coast around Southwold has the lowest annual rate of rainfall at 550mm (Moorlock *et al.* 2000: 88). These data demonstrate that the county has one of the lowest rates of precipitation in England and that it is uneven within the county, so that the western part of the county has a greater annual rainfall than the eastern half.

3.16: The hydrology of Suffolk

The East Anglia is intimately linked to water as it is a peninsula bound to the west, north and east by the sea or fenland. Suffolk is the southern half of the peninsula where East Anglia joins mainland Britain, with Cambridgeshire to the southwest and Essex to the south (Map 3.10).

The river Stour defines the southern border with Essex. The rivers Waveney and Little Ouse define the northern county border with Norfolk. The eastern boundary of the county is defined by the North Sea, which penetrates deep inland up tidal estuaries and rivers. The western boundary of the county is defined by two topographical features. Its southern part is marked by the high chalk hills of the East Anglian Heights that form the Chilterns further west. The northern half of its western boundary is defined by the Fens, forming a second coastline and associated with a complex Fenland river-system that still remains tidal to Lakenheath (Map 3.11).

It must be noted that the hydrology and piezometric surface in Suffolk has changed a great deal since the 11th and 12th centuries due to historic and modern drainage, water-management and water-extraction. This has had the effect of lowering of the piezometric surface and most dramatically the drainage of the fens has considerably altered the navigability of those rivers associated with the fenland coastline of Suffolk. However, a distribution map of the castle sites in Suffolk and the county's watercourses reveal a clear relationship between the two (Map 3.12).

3.17: The North Sea and Fenland maritime environments

At Lopham Fen the river heads of the Little Ouse and Waveney are separated by the width of a single road, overlying a 1.52m high sand bar and located OD+25m (TM039792). The Little Ouse flows westward into the Fen basin and the Waveney eastward into the North Sea (Bennett 1884: 1-2; Barringer 1968: 6). While the Great Ouse catchment drains into the Fen rivers system and ultimately the Wash, the other catchments empty into the North Sea. It is argued here and below that this pattern of watershed creates two maritime environments that give rise to two distinctive Suffolk Fenland and North Sea maritime environments. Appendices 4.2; 4, 7 & 5.4, argue in detail that these two environments are characterised by:

1. Distinctive hydrological processes: In the North Sea maritime environment erosion and long-shore drift are dominant and in the Fenland maritime environment peat-formation and the silting and diversion of watercourses are dominant.
2. Distinctive fishing and processing industries: In the 11th and 12th centuries the two maritime environments were associated with large scale, seasonal and specialised fishing industries with distinctive processing techniques. These produced salted herring in the North Sea maritime environment (Table 3.15, Map 3.13) and smoked eels in the Fenland maritime environment.

3. Distinctive lordship patterns: The Fenland maritime environment was dominated by the ecclesiastical lords of the Abbey of Ely and the bishop of Norwich, whereas the North Sea maritime environment was fragmented amongst a number of secular lords and monastic foundations, but with the Bigod family possessing the dominant feudal lordship in the 11th and 12th centuries (Appendices 4.2.4, 4.7.7, 5.0, Tables 3.16-17, Map 3.14).

4. Distinctive place-names: Appendix 6.0 describe the distinctive place-names associated with each maritime environment and suggests that Old English maritime terms dominate the cognitive maritime landscape of the Fenland coast and Scandinavian-influenced maritime terms dominate the North Sea maritime landscape.

It can be concluded that 6, or 22%, of the castles in the data-set are associated with the Fenland maritime environment and 21, or 78%, of them are associated with the North Sea maritime environment.

3.18: The water catchments of Suffolk

The two maritime environments are sub-divided into four water catchments (Woodland 1946: 1; Table 3.18; Maps 3.15-16):

1. The Great Ouse catchment in northwest Suffolk, which contains six, or 22%, of the castles.
2. The Stour catchment in southwest Suffolk, which contains five, or 19%, of the castles.
3. The east Norfolk catchment, including the Waveney, which contains six, or 22%, of the castles.
4. The east Suffolk catchment, excluding the Waveney, which contains ten, or 37%, of the castles.

It should be noted that the river-names are linguistically some of the oldest place-names in the Suffolk and it is noted in Appendix 7.0 that many Suffolk river-names are Brythonic or Romano-British in origin and that pre-Anglian river-names continued in use by the Anglo-Saxon population of East Anglia into the 11th century (Map 3.17).

3.19: Aquifers

An aquifer is defined as, 'A body of pervious (or permeable) rocks capable of yielding groundwater' (McClean and Gribble 1992: 161). An aquifer is identified by means of its geological context, as spatial units of groundwater basins, and which consists of one or more aquifers. An aquifer is both a hydrological feature and a quantifiable hydrodynamic system, in that it is: a) a reservoir of water with its own volume and a homogeneous or heterogeneous internal organisation of structure, and b) a hydrodynamic mechanism with a storage capacity and a measurable conduit. The principal aquifer in west Suffolk is chalk and in east Suffolk it is crag.

There are three types of aquifer:

- 1.) Unconfined aquifer – characterised as hydrodynamic with free fluctuations where the water-bearing formation is not saturated, air is trapped in porous geological formations and the water-level is always beneath ground level.
- 2.) Confined aquifer – characterised by a saturated water-bearing formation, covered by a permeable or semi-permeable geology, with a higher level of rest for the water within it and where the piezometric surface is higher than ground surface, forming an artesian well in which water rises.
- c.) Semi-confined aquifer – waters leak through a semi-permeable layer, creating a hydrodynamic flow of water moving between Confined and Unconfined aquifers (Detay 1997: 7-11).

3.20: The piezometric surface

Not all the water that falls as precipitation ends up as ground-water; between 33 and 50% of rainfall evaporates. Water is also taken up by plants or lost as run-off into ponds, rivers and ditches. The remaining water passes through the sub-soil and underlying deposits to a zone of saturation known as groundwater and whose upper limit is known as the piezometric surface (Ruckley 1990: 15). The piezometric surface is not static vary both seasonally and over time. Moreover, in permeable rocks it is continuously in motion and this flow can be calculated by Darcy's Law (Ministry of Defence and Institute of Civil Engineers 1976: 310; McClean and Gribble 1992: 156 & 8).

The piezometric surface is a subdued replica of the topography above, the piezometric surface being at a greater depth the higher the topography. For example, the topography of the district around Framlingham is OD+50m and the piezometric surface occurs at OD+27m (Moorlock *et al.* 2000: 89). The piezometric surface is closer to the surface on an escarpment or in a valley, which is also where springs produce the greatest yield (Figure 26).

3.21: Perched piezometric surface

Another type of piezometric surface that occurs in Suffolk is described as ‘perched’, and are susceptible to drying out or over-exploitation. Perched piezometric surfaces are described by McClean and Gribble (1992: 152) as follows:

‘If gravity water percolating through the unsaturated zone meets a layer or lens of impervious rock, for example a lens of clay in gravel, then the further flow downwards is hindered, and a local zone of saturation is formed above the main piezometric surface’.

Such perched piezometric surfaces occur in aquifers of glacial sands and gravels or gaults in Lowestoft till drift geology, which have been exploited as a local source of water supply in the historic past in many Suffolk villages (Woodland 1946: 9-11; Forby 1970b: 129; Moorlock *et al.* 2000: 64).

3.22: Current state of knowledge of water-supply to medieval castles

Some scholars have incorrectly argued that a well was essential for a keep. For example, Armitage (1912: 362-3) only mentioned wells in relation to keeps, which has probably led others to the belief that a well was a functional requirement for a keep (Brown 1976: 76; Steane 1985: 84).

Unfortunately, there is little theoretically informed or systematic study of water-supply in England during the 11th and 12th centuries. Squatriti (1998: 1) takes as his starting point Braudel’s comment that: ‘Paradoxically, one must begin with water’ (Braudel 1973: 159) and argues that:

‘Braudel meant only that water played a very significant role in early modern nutrition, but his recommendation to begin with water may be usefully applied more generally to any sort of study of the economic, social, and cultural conditions of past society’.

Furthermore, Squatriti (1998:5) argues that:

‘How water functioned in a given landscape depended on precipitation, relief, soil composition, hydrology and a [*sic*] array of other ecological factors; it was thus, a Braudelian structure, but one which changed over a *durée* as *longue* as the early middle-ages’.

Squatriti (1998: 21) identifies two different types of water sources in medieval mentality, the more desirable 'live' water from springs or watercourses and, the more common 'still' water from wells, cisterns and, although Squatriti fails to mention them, ponds or wet-moats.

As especially relevant to a discussion of castles, Squatriti (1998: 24 & 28) observes that water management played a functional role during the early medieval period:

'wells and cisterns were an excellent system of water-supply for uneasy societies. Indeed, they were an antidote to insecurity and sustained the viability of the household even in the face of monstrous calamities'.

He adds that:

'In places where options were few, the well-owners held the key to prestige and authority'.

A practical methodology has been established by Burger's (2001) study of water-supply to Roman forts. He examined the water supply to 807 Roman civil and 137 military sites, establishing in the latter case that 61% of sites were supplied by wells, 7% by springs, 23% by cistern, while at 10% of the sites the source of supply could not be identified (Burger 2001: 89 & 91).

The only specific discussion of water-supply in relation to castles is by Ruckley (1990: 14-26). However, Ruckley's paper is problematic, as it lacks an explicit definition of what constitutes a castle. This has led to the inclusion in his data-set of a wide range of structures, both castles and fortified houses, from the medieval period and extending into the 18th century. In addition, Ruckley only acknowledged three 'modern' sources of water-supply, namely wells, rain-water cisterns and piped external supply, but he failed to discuss wet-moats, watercourses, meres, natural lakes or springs as alternative potential sources of water in the past. Despite these criticisms, Ruckley's work enjoys the advantage of a large data-set of 423 castles from all over the United Kingdom, and from it he drew the following important conclusions:

1. Ruckley (1990: 23-4) established that 48% of castles, fortified houses or palaces in his sample had no known source of water-supply and that 40% of the keeps and tower houses in his sample were shown, by means of excavation, to have no evidence of an internal water-supply. This, he argued, countered Armitage, Brown and Steane's claims concerning wells in relation to mottes or keeps (Armitage 1912: 362-3, Brown 1976: 76; Steane 1985: 84).

2. Ruckley (1990: 23-26) established: that only 24% of castles in his sample possessed wells, and of these 81.5% were located within the inner defences of the castle.

3. This led Ruckley (1990: 23) to conclude that a water-supply was not essential for a keep but that a secure water-supply close to the main area of military and domestic buildings was a necessity.

3.23: Hydrological technology in the 11th and 12th centuries

3.23.1: Wells

Since the Bronze Age wells have been dug in order to supply water (Burger 2001: 46). Modern wells can be excavated to a depth of 600m and produce an average yield of 40 litres per minute (McClean and Gribble 1992: 170). However, beyond a depth of 30m modern wells are not dug but bored (Ministry of Defence and Institute of Civil Engineers 1976: 333). The deepest reputed well of any United Kingdom castle is in the inner ward of the 13th-century Beeston castle which is 112m deep (Ruckley 1990: 14). Only three Suffolk castles, at Bungay, Framlingham and Orford, evidence wells. Of these Bungay at 60 to 70 feet (18 to 21m), is the deepest (Whitaker 1906: 34; Raby and Baillie Reynolds 1963: 19; Brown 1964: 18). Despite the evidence of cisterns, the larger baronial or royal castles, such as Castle Acre and Norwich in Norfolk (Figures 7, 9), generally evidenced two or more wells (Coad and Streeton 1983: 151-2, 173).

Well sinking is both speculative and dangerous, especially in chalk. Burger passed out in a 12m deep well due to lack of oxygen and carbon dioxide asphyxiation, known as 'choke damp'. On the 6th March 1875 the Suffolk Chronicle reported that a man had suffocated while working in a 75 feet (22.86m) deep well at Flixton and that two days before the fatality candles were extinguished by a lack of oxygen at a depth of 20 feet (6.09m) within the shaft (Whittaker 1906: 53; Vince 1978: 5; Woodland 1946: 10; Burger 2001: 46).

Wells create a cone of depression of the piezometric surface, which may interfere with other wells by lowering the piezometric surface and thereby reducing flow. It can also lead to subsidence on the surface around the well-head, which may threaten the foundations of nearby buildings. The volume of the aquifer also restricts the number of wells that can be dug in a given area. Therefore, if a castle required several wells it had to be situated over a large aquifer, preferably in a river valley where the aquifer was shallow and yields less subject to seasonal variation (Ministry of Defence and Institute of Civil Engineers 1976: 201; Detay 1997: 105).

Documentary evidence of castle wells is sparse in the 11th and 12th centuries. It is only after the mid-13th century that records of castle construction survive in large enough numbers for us to

compare the evidence. A well was a major expense in the construction cost of later castles and that they had to be frequently cleaned-out or re-cut for them to remain functional, which were expensive operations. For example, Oxford castle required its well to be cleaned out in c.1173-4, which cost the crown £20 (Pipe Roll 20 Henry II: 77) and at Aberystwyth c.1286-9 the re-cutting of the well in the middle of the castle cost a total of £27 16s 0d including a wooden well-cover and a rope, which amounted to more than 10% of the total cost of the renovation of the castle (Brown *et al.* 1963: 306-7).

Wells had by the 13th century become an important enough internal feature to warrant a well-house or well-head. These buildings were designed to protect the well from pollution, and by the 15th-century well-buildings could be lead roofed, highly decorated, painted and ornately carved, sometimes with heraldic devices (Brown *et al.* 1963: 453 & 772). A decorated well-head, of an alleged 16th-century date, was evidenced at Framlingham before the 17th century (Raby and Baillie Reynolds 1963: 19). Examples of earlier well-head buildings are known at Oxford castle c.1225, Ruddlan 1282 and Castell Y Bere 1294 (Brown *et al.* 1963: 772; 324; 367-8).

It is possible that timber well-heads and probable that lined wells existed in the 11th and 12th centuries in Suffolk, but this thesis found no documentary evidence for them. A lined well is important where the drift or solid geology, for example boulder clay, loess, crag, glacial or river terrace sands and gravels or any other sandy soils, can pollute the water supply. To prevent this, wells are lined, a process referred to as steining, derived from OE *stæning* 1. a stoning, cast in stone, or 2. ornamenting with stones (Bosworth and Toller 1898: 908; Vince 1978: 5 & 49; Detay 1997: 216).

According to Detay (1997: 74), a lined-well offers a number of advantages:

- a. Ensures maximum yield.
- b. Resists corrosion of well.
- c. Resists crushing pressure exerted by the aquifer formation.
- d. Increases the well's life-span.
- e. Induces minimal loss of pressure.

The Romans used timber-lined wells in London. These could be either barrel-lined, corner-post construction or box-frame wells. The Romans favoured using square timber-framed wells in soft or sandy geologies. The most notable exception to lined-wells were those driven into chalk or stiff clay, as steining was not required. Stone-lined wells might be constructed from stone or

brick. In either case clay was used to line the well floor (Vince 1978: 5; Wilmott 1982: 23-31; Burger 1997: 49).

3.23.2: *Mechanical hand pumps*

Mechanical hand pumps have been associated with supplying water since Roman times; an excavated example comes from Silchester (Burger 2001: 56). Surviving post-medieval examples were wooden and frequently made from elm. The pump bore was augered, with its joints sealed with mutton fat. However, wooden pumps were difficult to maintain and repair and even mechanical hand pumps are limited in how high it is possible for them to raise water against gravity. This effectively limits the depth of water that can be raised by a pump to 25 feet (7.6m). A post-medieval hand pump is evidenced at Mildenhall. However, there is no evidence that pumps were used to supply Suffolk castles in the 11th and 12th centuries, but their occurrence in today's landscape indicates the piezometric surface is close to the surface (Vince 1978: 15).

3.23.3: *Cisterns*

Woodland (1946: 10) notes that water-butts or cisterns were historically a frequent source of water-supply in high locations in the topography of Suffolk before the introduction of the modern water-mains.

Ruckley (1990: 20-22) identified cisterns at the stone-built 11th- and 12th- century castles at Oakhampton, Dover and Conisborough; as well as distinguishing between primary cisterns, for collecting large bodies of water, and smaller secondary cisterns, located at important strategic places around the castle, for specialised purposes like fire-fighting. Oakhampton castle in Devon exhibits hybrid forms of supply where a dual-purpose cistern/land-spring collected water by means of both percolation through a water-bearing stratum and by capture of rainwater from the roofs of buildings (Higham *et al.* 1982: 31-35). In an especially dry county and on a notably dry coastline like that of east Suffolk, the stone castle keep of Orford c.1165 evidences a cistern in addition to its well (Brown 1964: 20 & plan).

Barker and Higham (1982: 36) have demonstrated that rain-water cisterns were constructed within the superstructure of earth and timber castles at Hen Domen, where a mid-12th- century feature (XLIII), in the Lower Bailey, is held to be a leather-lined cistern fed from the roofs of neighbouring internal timber structures. A second cistern (Feature 15) has been identified in the northeast corner of the rampart and is interpreted as a strategically located fire-fighting water-supply; a highly functional feature in a combustible building (Barker and Higham 1982: 40). A

third wattle-lined cistern, (motte feature number 68) was tentatively identified at Hen Domen on the western edge of the motte and adjacent to the keep c.1070 (Higham and Barker 2000: 63 & 67-9). In addition, other excavated examples of earth and timbers castles evidence cisterns, for example at Goltho c.1080, Baile Hill c.1100, and South Mimms c.1144 (Kent 1961: 318; 1963: 322; 1964: 255; 1968; Barker and Higham 1982: 40; Higham and Barker 2000: 63 & 67-9; Beresford 1987: Fig. 109 101, 103-4, Addyman and Priestley 1977: 131).

3.23.4: *Wet-moats, ponds and natural lakes*

A wet-moat, pond or natural lake can act as a reservoir for 'still' water (Brown *et al.* 1963: 799; Plowman 2005: 44). In areas covered by Lowestoft till the clay is largely impermeable; consequently ponds are frequent in Suffolk and, unlike meres, are fed solely by rainfall. Nicholas Sibbert has identified 22 635 ponds within the modern boundary of the county of Suffolk. This gives a mean county density of 5.9 ponds per km² contrasting with a British lowland average of 1.7km² (Sibbert 1999: 6). The distribution of ponds across Suffolk is not even (Map 3.18) as it is dependent on how permeable the drift geology is. The average densities of the Natural Areas of Suffolk (Sibbert 1999: 15) are as follows:-

Natural area	Average pond density
East Anglian Plain	7.7 per km ²
Broadlands	4.6 per km ²
Suffolk Coast and Heaths	3.3 per km ²
Brecklands	1.0 per km ²
East Anglian Chalk	0.4 per km ²
London Clay District	2.89 per km ² ⁵

There are two civil-parishes with castles that Sibbert's data does not cover, South Thetford and Burgh, as they are now part of Norfolk. These have been calculated by dividing the frequency of ponds on the relevant Ordnance Survey map by the parish area (Minchin 1911: 683-695). The twenty-seven civil-parishes have means of 53.63 ponds each and density of 5.66 ponds per km². Framlingham has the largest number of ponds, 174 being evidenced, but Otley has the highest density of ponds with 12.4 per km². Freckenham has the lowest number and density of ponds, but it is worth noting that its one pond is immediately west of the castle earthworks (Table 3.15).

⁵ This figure is calculated in Table 3.19 for Samford hundred as Sibbert (1999) does not include data for the London Clay District.

Wet-moats or island locations are evidenced or suggested at Bramsfield, Bungay, Clare, Desning, Eye, Finningham, Framlingham, Great Ashfield, Haughley, Ilketshall St John, Lidgate, Lindsey, Milden, Nayland, Offton, Otley and South Cove castles (Appendices 1.1-2; 5; 7-12; 15-16; 18-22; 24 & 26)

3.23.5: Springs, meres and watercourses

A castle can be supplied with 'live' water by a natural spring (McClellan and Gribble 1992: 164-7; Brown *et al.* 1963: 367), which can be:

- A valley spring.
- A contact or stratum or land spring.
- A fault spring.
- A mere or spring-fed lake.

Water piped from an external 'live' source is too late a technology for the data-set of Suffolk castles, as it is first evidenced at the palace of Westminster *c.* 1169-70 and only evidenced in castles from the 13th century, for example Pembroke castle *c.* 1200, Leeds castle in Kent *c.* 1297-8 and Restormel castle in Cornwall *c.* 1337 (Brown *et al.* 1963: 698, 805 & 849; King 1978: 104).

Meres are spring-fed lakes and were, therefore, a more reliable source of water-supply and, which frequently fed Suffolk's rivers (Sussams 1996: 3). Meres in East Anglia could be substantial bodies of water. Diss Mere in 1835 covered 5 acres (2.23 hectares) to a depth of 4.57 - 5.94m (Bennett 1884: 2). Three Domesday hundred-names contain the word OE *mere* (Bosworth and Toller 1898: 679; Smith 1956: 38-9; Gelling and Cole 2000: 21-7; Watts 2004: 408-9): Bosmere, Hartismere (Skeats 1913: 82-3) and Bradmere. To these must be added the Domesday place-name examples of Minsmere (Ekwall 1947: 312), Rushmere (Lothing), Rushmere (Plomesgate), Rushmere St Andrew (Watts 2004: 514), *Tusemera* (Hartismere), Great and Little Livermere (Skeats 1913: 83), Semer (Skeats 1913: 83) and Sturmere (Watts 2004: 588) on the Essex side of the river Stour (Rumble 1986: 1,2;8;15;23;26. 3,2;17. 4,40. 6,19;107;116;125;139. 7,32. 8,16. 14,22;68;87;108. 21,9,62;69. 31,34;40. 34,17. 67,14.; 1983: 38,6-7.). Two Suffolk castles, at Framlingham and Haughley are situated adjacent to meres (Appendices 1.10 & 15).

The only mere evidenced on the river Stour is at Wormingford, which is 30 feet (9.144m) deep and was according to local folk-tradition, the home of a dragon (Waller 1957: 2). Meres could

be artificially enlarged; for example, at Framlingham castle where an existing body of water was enlarged by the construction of a dam c.1180-90 (Plowman 2005: 43).

A site adjacent to a watercourse could supply 'live' water to a castle, as at Bungay, Burgh, Clare, Eye, Framlingham, Freckenham, Lindsey, Nayland and Otley castles, or even a tidal estuary as at South Cove (Appendices 1.2; 4-5; 8; 10-11; 19; 21; 24 & 26). Adjacent to a watercourse, a well could be driven into the relatively shallow piezometric surface, for example, in all the cases of Suffolk castles that evidence wells. Watercourses were also incorporated into castle defences at Bungay, Burgh, Clare, Eye, Framlingham, Freckenham, Lindsey, Nayland, Otley and South Cove (Appendices 1.2; 4-5; 8; 10-11; 19; 21; 24 & 26).

3.24: Riverine-transportation

Four castle-sites at Burgh, Orford, South Cove and Walton commanded important estuaries or rivers systems or were medieval ports. Medieval inland navigation and transportation by water has been subject to surprisingly little academic study. The main area of contention is how navigable many medieval watercourses in fact were, with Edwards and Miller (1991: 12-14; 1993: 123-134) suggesting an extensive system of medieval navigation, but Langdon (1993: 1-11) arguing that navigation was not as extensive. This debate has now stalled, although Andrew Sherratt (1996: 226) has argued that in pre-history:

'The inter-regional movement of goods by water is a fundamental factor in explaining the cultural history and rise to prosperity of particular areas'.

It is argued here that the navigability of rivers in the past was important and that the practical advantages of water-transport in Suffolk between 1086 and 1200 were that it overcame the following problems:

1. The roads of medieval Suffolk were poor, being described as follows c.1600:
'the wayes & common roades in the contrye are verye fowle & uncomfortable in the winter tyme to travayle in' (Macculloch 1976: 19).
2. It was difficult during the medieval period to cross watercourses. The first documentary evidence of a bridge in the county is at Ipswich c.970 (Fairclough 2003: 262-277). Domesday place-name evidence for bridges is slight, although the Domesday place-names Bridge near Dunwich, Woodbridge and the hundred-name Risbridge suggest that there were other Anglo-Saxon bridges in the county before c.1066 (Watts 2004: 85; 694; Rumble 1986: 1,90.). This contrasts with the Domesday place-name element *OE ford* (Bosworth and Toller 1898: 304), which occurs twenty-six times in Domesday

place-names in Suffolk (Table 3.16.; Map 3.19). Furthermore, the standing archaeological evidence shows that oldest surviving Suffolk bridges were built in the 13th century and were often pack-horse bridges, such as at Moulton (Watkins 1931: 110-119; Table 3.17). Bridges were thus rare in Suffolk before the mid-13th century, suggesting that the main method of crossing watercourses in Suffolk in the 11th and 12th centuries was by fords rather than bridges and that where either bridges or fords existed a portage point was created on the navigation. It is noted that ten, or 37%, of Suffolk castles in the data-set command or control major fords. It is argued here that, the locations of fordable points on watercourses are most frequently a product of the county's topography, geology and hydrology, rather than a product of human agency. As a result of the rarity of bridges, before the mid-13th-century, the waterways both constrained land communications across the county, due to the limited number of fordable crossing points, but also acted as important inland communication routes in their own right. Fords, and later bridges, restricted the navigation up and down watercourses, as they did and communication across watercourses. Although, fords are subject to seasonal variations in water-level (Oppenheim 1907: 200; Leighton 1974). Finally, there is documentary evidence of medieval ferries at Gooseford on the river Deben, Herringfleet on the river Waveney, Kentford on the river Kennet and Lakenheath on the Little Ouse.

3. Land transport involved frequent tolls. Leighton (1972: 94) argues;

‘The most ubiquitous artificial limitation on medieval trade and transport was the Toll...It is not too extreme a generalisation to say that there were Tolls everywhere on everything’.

By contrast, Leighton (1972: 164) also notes that tolls on river transport were far less frequent or onerous and concludes:

‘Despite the multiplicity of Tolls, it [water transportation] was generally more economical than land transport’.

The significance of water transportation in the middle ages is demonstrated by the archaeological evidence of lodes or ‘*eaus*’ – medieval canals linking the main channels of Fenland rivers with Fen edge settlements (Oosthuizen 1993a: 29-35; Appendices 6.3.1 & 4).

3.25: Hydrological and water-supply conclusions

- Water in medieval Suffolk was a limited resource and that, like any other resource, it was subject to lordly control, which restricted access (Squatriti 1998: 24-8).
- Suffolk's high levels of population and the degree of Anglo-Saxon manorialisation evidenced at Domesday meant that many of the best sources of water supply were already being exploited before castles appeared in the Suffolk landscape.
- Castles in Suffolk could be supplied either from a well, spring, mere or watercourse or from a reservoir, which could take the form of a cistern, a wet-moat, a pond or a lake.
- Water was required for both the garrison and their mounts. It is suggested here that 'live' water from watercourses and rain-water collected in cisterns or water-butts, springs and/or well-supplied water was reserved as the garrison's drinking water and that 'still' water from reservoirs in the forms of ponds, lakes, meres or wet-moats were exploited to supply the mounts.
- Hydrology like the other environmental factors, does not determine the location of a castle but that, along with topography and geology, it constrains the location of castles in the landscape of Suffolk.
- It is argued in detail in the appendices that Suffolk had two maritime environments had an extensive riverine navigation system in the 11th and 12th centuries (Appendices 4.2; 5; 7 & 5.0).

3.26: Timber resources in Suffolk

Modern Suffolk has 28 521 hectares of forestry covering 7.5% of its area, of which 48% is deciduous. On clay soils oak standards dominate the surviving mixed-species woodlands, some of which have been managed as coppices since the 13th century (Rackham 1982: 200 & 203; Hodges *et al.* 1984: 45-6). No original wild woodland survives in Suffolk and all 'ancient' woodland in the county has been subject to many cycles of felling and regeneration, under the influence of human agency from the time before castles appeared (Rackham 1990: 67-8).

The different availability of Domesday woodland in Suffolk and Essex and its resulting timber-supply has given rise to the characteristic close studding found in Essex timber-framed

buildings compared with the sparser studding timber-framing tradition associated with Suffolk (Darby 1971: 179-82, 232-239 & 363-4; Alcock *et al.* 1999: G18 & F23).

Rackham noted (1990: 67-8) that oak was the most frequently used timber in East Anglia and was evidenced in 97% of timber-framed buildings, although elm was occasionally used for exceptionally lengthy timbers. Oak is well suited for castle-building because of its great strength, and because of this it was also used in building windmills, which started to appear in Suffolk from the mid-12th century (Harris *et al.* 2003: 85). The major advantage of oak in earth and timber castles is that it is effectively fire-proof when more than 10 inches (0.25m) in diameter (Timber Development Association Ltd 1944 6-8 & 28 and Figure 27).

Timber-framing requires that the oak is worked green, making it difficult to move timbers any distance due to their weight (Darrah 1982: 219). Rackham (1982: 213-7) has argued that there is evidence, in the later medieval period, of wood being transported long distances by road. However, the examples he cites are late and concern major ecclesiastical lordships with outlying estates. Even then most timber was transported by coastal or inland navigation for economic reasons. It is assumed that in Suffolk the smaller castles held by non-baronial lords or baronial officials would be more reliant upon local timber-supply in the 11th and 12th centuries. Furthermore, it is argued here that when the demand for timber later grew, due to a larger population (Rackham 1990: 67-8), it became economical to transport timber (or later stone) over greater distances.

3.26.1: Establishing the Domesday timber resources in the vicinity of the data-set of castles

It has been calculated that 15% of Domesday England was woodland or woodland pasture and therefore poorly wooded compared to the rest of Northern Europe. Suffolk at Domesday was a poorly and unevenly wooded county (Map 3.20), with less than the mean wood cover for England in 1086, contrasting with the heavily wooded county of Essex to the south (Darby 1971: 179-82, 232-239 and 363-4; Rackham 1986: 16; 1990: 67; 1996: 64-5 and 200).

At Domesday *demesne* woodland was concentrated in High or South Suffolk and limited in the other pays (Darby 1971: 179-82). The limited quantity of woodland meant that it was an important asset and subject to feudal lordships. The larger lordships, such as St Edmund's Abbey, controlled larger quantities of Domesday woodland compared with the small amounts associated with some villis (Rackham 1998: 139-60).

Rackham (1990: 67-8) has argued that at Domesday only 4-5% of East Anglian woodland was coppiced and most timber came from wood-pasture but that demographic pressure from the mid-13th century encouraged conversion to coppice, which was then intensively managed for underwood, producing timber as a by-product.

For the purposes of analysis Domesday woodland of settlements that later acquired castles can be tabulated (Table 3.18).

It has long been known that there was an overall drop in the amount of woodland at pig in the Suffolk Domesday Book entries between 1066 and 1086 (Lennard 1945: 36-43; Welldon Finn 1967: 176-7). It is possible to show all the Domesday woodland at each Suffolk vill and borough that acquired a castle both in 1066 and 1086, in order to identify significant losses of woodland between those two dates (Table 3.18).

It should be noted that some Domesday vills that later had earth and timber castles did not have any *demesne* woodland recorded at them in 1066 or 1086, including Burgh, Freckenham, Lindsey, Nayland, Offton, Orford, Thetford St Mary, South Cove and Walton (Appendices 1.4; 11; 19-23 & 25-27). It is also impossible to calculate the amount of woodland in Suffolk attached to the Borough of Thetford or the four castle-sites at Ilketshall St John, Lindsey, Orford and South Cove (Appendices 1.16; 19; 23 & 25-26), because they had no manors to hold *demesne* Domesday woodland recorded in the Domesday book. Of the remaining five vills that have no Domesday woodland recorded in 1086, all apart from Offton (Appendix 1.22) are on navigable rivers or are associated with the coastline, making possible the transportation of the heavy worked green timbers to these locations.

Offton is the most uncertain of all the earthworks identified in the Suffolk castle data-set. The identification is based on the etymology of the neighbouring Castle Farm, and the assertion that it was a 12th-century castle is suggested by the documentary evidence for a Lordship of Offton rather than proven by archaeology (Lyte 1923: 1151; Johnson and Cronne 1956: 338; Copinger 1908: 337-339; Wall 1911: 592; Hopkins 1935: 203; Redstone 1937; Renn 1973: 223; King 1983: 459; Martin 1999d: 58-9; 198; Pevsner and Radcliffe 2000: 382; Salter 2001: 83).

3.26.2: Pigs in space: an alternative interpretation of the measurements of Domesday woodland in the east of England

The *demesne* woodland attached to Suffolk manors in 1066 and 1086 is recorded in the Little Domesday Book. This probably does not represent all the woodland in Suffolk but, given the

advanced level of manorialisation in East Anglia, it must include most of the county's woodland (Douglas 1927: 205-219; Darby 1950: 24; Rackham 1998: 149). Therefore, the Domesday data offers an approximation of woodlands resources available in those Suffolk manors that evidence castles between 1066 and 1200.

It has long been understood that the measurement of woodland in the Domesday Book is regionally recorded in different ways.

'Broadly speaking, the answers to the question fall into five groups. Sometimes they state that there was enough wood to support a given number of swine. A variant of this is a statement not of total swine but the number returned as rent from the wood. A third answer is the length and breadth of the wood in terms of leagues and furlongs and, maybe, perches. A fourth type states the size of a wood in terms of acres. The fifth category of answers is a miscellaneous one that includes a number of variants and idiosyncrasies occasionally encountered in the text' (Darby 1950: 22).

Generally a single method was used in each county survey, and the Little Domesday Book, which includes Norfolk, Suffolk and Essex, most frequently records woodland by the number of pigs it could support. However, it should be noted that there were exceptions; with a few Domesday villis in Norfolk and one lost vill of *Rendle* in Suffolk having their area of woodland recorded in acres at Domesday (Darby 1971: 125 & 179).

The method of counting woodland by pig covers more than those counties in the East Anglian Domesday circuit, so it appears not to be the creation of the Domesday commissioners themselves. Those counties not in the Little Domesday Book that calculate their woodland by pig include Cambridgeshire, Hertfordshire, Bedfordshire, Middlesex and Buckinghamshire. This means that the area where swine totals are recorded for woodland forms a contiguous block of territory with an identical method of measuring woodland at Domesday (Darby 1950: 23). It should be noted that this method of measurement was used both in areas previously in the Danelaw and in areas under the control of the kings of Wessex and England. This suggests both that this method of measurement is not Scandinavian in origin and that it is unlikely to have been a method of measurement introduced by the Domesday survey. It is suggested here that this unique and localised method of measuring woodland is possibly of considerable antiquity. Interestingly, this is the area covered by the kingdoms of East Anglia and Essex between c.AD 600 and 825. As Domesday data are based upon the evidence of an inquest of Hundred Court Juries, this might suggest that a common Anglian method of measuring woodland.

It is possible to create a table to compare the number of *demesne* pigs recorded as livestock attached to the manor with the number of swine that the manorial woodland could support at Domesday (Table 3.19). It has been noted above that the Domesday woodland resources are

unknown, that the woodlands associated with several post-Domesday manors that acquire castles therefore cannot be calculated and, furthermore, that there is no correlation between the number of pigs held as livestock by the manor and the amount of woodland at pig in 1086.

From Table 3.18 it is possible to identify three manors where there are substantial drops in the amount of woodland at pig between 1066 and 1086. These are Eye, Burgate and Creting St Peter (Appendices 1.3; 6 & 8). At Burgate woodland for 106 pigs in 1066 was reduced to woodland for 46 pigs in 1086 and at Creting St Peter the woodland for 40 pigs in 1066 was entirely absent by 1086. At Eye the amount of woodland had been reduced from woodland for 159 pigs in 1066 to woodland for 69 in 1086.

It is argued here that any substantial fall in swine numbers between 1066 and 1086 may indicate that a major building project was undertaken in that period that drew on the woodland resources of the Domesday vill. For example, it is known that William Malet built the first castle at Eye before 1086 and that there is a fall in the amount of woodland at pig between 1086 and 1200 (Rumble 1986: 18, 1.). It is argued here that the fall in the amount of woodland at pig attached to Eye may be directly linked to the construction of the first documented castle in Suffolk. If this supposition is correct, only three possible Domesday vills, Burgate, Creting and Eye, had gained earth and timber castles in the eleven years between the Norman occupation of East Anglia in 1075 and the production of the Domesday Survey in 1086. If that is true, Suffolk castles contradict Eales' assertion that the majority of castles were built in the immediate period after the conquest (Eales 1990: 49-78).

3.26.3: Testing the Domesday data as a quantitative measurement of woodland

This raises the question how much woodland is represented by this method of measurement.

When making any calculations Darby's (1950: 40) warning is relevant:

'It is possible to make assumptions about the relationship of acres to swine, but such assumptions must always be full of uncertainty'.

To calculate the area of Domesday woodland in km² associated with each of the manor in 1086 that later acquire castles, it is possible to compare and analyse three sets of data in order to arrive at an approximation of the area of woodland the swine totals represent (Table 3.20).

- a. The area of the parishes before 1844 (Minchin 1911: 683-695). Although the Domesday vill and manor are not equivalent areas, it is possible to get an approximate idea of how much woodland there was attached to each manor in 1066 and 1086. Moreover, there

are 352 recorded Domesday churches in Suffolk, which this suggests that many parishes already existed, even if their precise boundaries remain unknown (Darby 1971: 377).

- b. The 'natural' density of wild boar found in their native habitat of a pristine North European primeval forest, which is 5.9 animals per km² (Jędrzejewska *et al.* 1994: 664-676; Maroo and Yalden 2000: 243-248).
- c. The amount of woodland required by a modern smallholding in order to raise domesticated pigs, which can be calculated from the minimum area suggested by modern small-holders to keep happy and healthy pigs. This is calculated at an absolute minimum of 150m² for a pair of pigs, whose own foraging is supplemented by being fed food scraps and the by-products of arable farming. It should be noted that pigs, being social creatures, do not like being kept on their own, so smallholders always keep a minimum of a pair (Fearnley-Wittingstall 2001: 142). This would suggest a density of population of 13.3 domesticated pigs per km².

Therefore, the density of domesticated pigs is just over double that for wild boar but is well below the maximum permitted by intensive modern out-door pig breeding methods, for which current government legislation recommends a maximum density of sows of 25 per hectare or 2500 pigs per km² (Department of the Environment, Farming and Rural Affairs 2007).

Using the two calculations, it is possible to compare the density of wild and domestic pigs with the amount of woodland described as being at pig associated with each Suffolk Domesday vill that acquires a castle before 1200. It is then possible to tabulate the results and compare the results of both these calculations with the area of the pre-1844 parish (Table 3.20).

From this it is possible to draw some observations.

- Calculation A represents wild boar population in a pristine environment (Table 3.20). The resulting figures suggest that the area of woodland is larger than the known area of the parish at Bramfield, Bungay, Burgate, Creting St Peter, Eye, Framlingham, Great Ashfield and Haughley. This would appear to imply that Calculation A is incorrect and that the area of woodland, when using the population density of wild boar to calculate the area of woodland suggested by the Domesday Book, is exaggerated.

- Calculation B is the modern domesticated pig population (Table 3.20). The results suggest the area of woodland is larger than the known area of the parish at Bramfield and its outlier at Walpole, Bungay, Framlingham's outlier at Saxstead and Great Ashfield.
- It is therefore concluded that neither calculation gives us an accurate means of converting Domesday woodland measured at pig into realistic figures for the area of woodland available for castle building.

How does one escape the apparently negative evidence of woodland massively greater in area than the parish in which they are found? It is argued here that the answer may lie in the nature of the measurements used.

It is necessary to return to the concept of 'woodland at pig' that the Hundred Courts had and then ask ourselves what they were in fact measuring? If they were quantitatively measuring a simple woodland area, it would make more sense if they calculated it by a linear or an area measurement, as the Great Domesday Book does elsewhere in England. However, it is possible that they were rather using a regional notional method of measuring the woodland ecology to calculate how many pigs could be kept in the woodland held in *demesne*.

It is therefore argued here that 'woodland at pig' is not a *quantitative* measurement of woodland but rather that it should be seen as a *qualitative* measurement of woodland ecology and that different types of woodland, at different stages of maturity, could produce enough mast and acorns to feed a larger or smaller number of pigs.

As a result, it is argued here that the simplest way to explain the huge differences between the area of anticipated woodland using either calculation A or B compared with the physical area of the parish is by seeing the woodland at Bramfield, Bungay, Great Ashfield and Bungay as exceptionally ecologically rich environments, consisting of mature woodland that included outsized oaks or large numbers of standards that could support a greater density of pigs than less rich, less mature woodland with few standard oaks or woodland pasture dominated by hedge oaks. This assumes that older and more mature woodland dominated by outsized or standard oaks could maintain a greater density of pigs per km² than less mature woodland or woodland pasture with few outsized or standard oaks. It would be possible to test this hypothesis by calculating the amount of mast and acorns different woodland can produce at different stages of their maturity and then examining if the woodland ecology dominated by outsized oaks or

standards can support more pigs than immature woodland or woodland pasture with few standards and dominated by hedge or parkland oaks. However, such a project is beyond the scope of this present thesis.

3.27: Carpentry technology between 1066 and 1200

Throughout this period three basic types of timber-frame construction are archaeologically evidenced. 1. The dominant and pre-Conquest technology of earth-fast construction, where post-holes are sunk into the earth. 2. The relatively rare and 11th-century stave construction, where timbers, cut staves or split planks are placed side-by-side in a grooved groundsill to form a continuous wall. 3. The rare late 12th-century groundsill construction, where a timber frame is laid on the ground, often on a raised earthwork house-platform, and the rest of the timber framed-building is constructed up from it. There are excavated earth and timber castles that demonstrate the use of two or more of these techniques continued in a hybrid form, for example, at Hen Domen. However, framed construction method, which allows the construction of a building of more than three stories, is only archaeologically evidenced from the end of the 12th century and the beginning of the 13th century (Brigham *et al.* 1992a: 18-19; Milne 1992b: 131-7; Gardiner 2004: 349-358).

Although Suffolk was poorly wooded at Domesday, most major medieval buildings, including castles and new religious houses, required considerable quantities of timber in their construction and necessitated the selective felling of the largest trees available (Rackham 1998: 147).

Rackham (1993: 88) claims that even in heavily wooded Domesday Essex:

‘The two barns [at Cressing] appear to represent the limits of what can be constructed using ordinary oak trees, rather than exceptional oak trees brought from a distance’.

It is argued here that availability of ‘outsized’ and ‘standard’ oak was especially important, because the simple scarf joints are not archaeologically evidenced in England before c.1170-90 (Brigham *et al.* 1992: 18-19; Gardiner 2004: 349-358). The genetic variation in oak trees means that for every 700 oak trees felled only 15, or 2%, qualify as ‘out-sized’ timber (Rackham 1993: 85-92). Rackham (1990: 67-8) has suggested that from the 13th century onwards ‘outsized’ oak trees had become rare, and it is suggested here that this may have in part driven the technical innovation of the simple scarf joint. Prior to this innovation in carpentry technology, all timber building were restricted in size to the largest timbers available.

3.27.1: *The simple scarf joint*

The most important carpentry innovation in the period 1066 to 1200 is the simple scarf joint (Figure 28). This was an important advance in carpentry technology because it allowed the joining of two pieces of timber end to end to create a single longer piece of timber. The first archaeological evidence for the simple scarf joint was excavated in London in a vernacular context and dated to c.1170-1180 (Brigham *et al.* 1992: 14-22; Milne 1992b: 131-7; Goodburn 1992: 106-130; 1997a: 249-257; 1997b: 155-161).

Therefore, prior to c.1170 the length of the cut timber constrained the maximum height and especially the width of any timber building. As Rackham (1993: 85-92) notes that the longest timber in the Barley Barn at Cressing is an arcade-plate originally 50 feet (15.24m) long, but the passing-braces are only 40-42 feet (12.19-12.80m) in length thereby limiting the width. However, even at Cressing the oak was sourced from managed woodland and hedgerows, most specimens were 50 years old when felled and each barn required the felling of 400-800 oak.

Its importance in building and paucity of oak is demonstrated by the story, recorded by Jocelyn of Brakelond, of Abbot Samson of St Edmund's tricking the Bishop of Ely out of his building-timber for Ely cathedral c.1190 (Greenway and Sayer 1989: 63-4).

3.27.2: *The archaeological evidence of contemporary carpentry technology from castles*

There is only a limited amount of surviving timber excavated from castle sites, including Farnham, Leicester, Rayleigh, Goltho and Hen Domen castles (Renn 1973: 85, 187-9, 233 & 290; Barker 1977: 101-4; 1987: 80-100; Barker and Higham 1982; Beresford 1987; Higham 2000: 113-8; Higham and Barker 2004).

Hen Domen, the most thoroughly excavated earth and timber castle, evidences several different forms of timber-framed construction but also demonstrates a growing sophistication in carpentry (Higham and Barker 2000: 11-81). By contrast, at Abinger castle the form of construction is exclusively earth-fast and simple in terms of carpentry (Figure 16; Higham and Barker 2004: 293-296).

The earliest timber structure found at Hen Domen is the late 11th-century bridge, which was constructed using crude and inefficient mortise and tenon joints. By contrast, the slightly later buildings of the barns and church demonstrate a more sophisticated carpentry. Despite this

technical innovation, all the carpentry at Hen Domen has been described by the excavators as utilitarian rather than decorative (Barker 1987: 52).

It has already been argued that different types of construction fabrics have different constraints operating upon them. Earth-fast construction means a limited life-span for a building. All timber is subject to decay but, crucially, earth-fast construction has a shorter life-span than a lintel or stave-constructed building, because, being sunk into the ground, the up-right timber posts rot more quickly. The longevity of earth-fast buildings is dependent on the thickness of the timber and drainage of the site. Generally, earth-fast buildings have a life-span of 20 to 40 years before major rebuilding is required to replace rotten timbers in the frame, although, with their massive timbers and well-drained locations, earth and timber keeps probably had a longer operational life. All earth and timber castles built before the late 12th century had an inherently limited operational life because of their method of construction.

The assumption that these earth and timber castles are not 'real' castles because of their short operational life is countered by the fact that the fabric of the buildings, the availability of 'outsized' or 'standard' oaks and the archaeologically attested carpentry technology constrains the buildings' operational life-span (Eales 1990: 49-78). Moreover, Bungay castle has a stone keep that was raised c.1163-5 on the site of an earlier earth and timber castle, first recorded in 1140. Bungay castle was slighted in c.1173-4 when a sap was driven under the southwest corner of the keep (Figure 5). The site was then abandoned for the next 121 years, until the castle was re-built under a new license to crenellate c.1294 by the Lord of Bungay, Roger V Bigod (Reeve 2001: 7-8).

If castles with stone-built features can have a relatively short life-span, then the current symbolic structuralist/post-processual models are making a considerable assumption about castles by requiring them to have longevity in order to qualify. Furthermore, it fails to appreciate that their construction materials and technology inherently limit the life-span of earth and timber castles, which applies to those in Suffolk built before c.1170-80. This limited life-span challenges a key assumption made by post-processual claims about castles, namely that castles have a long-term relationship with their environment, during which they acquire symbolic features of lordship, for example warrens, deer parks, landscaped approaches and formal gardens (Austin 1984: 69-81; Liddiard 2000b; 2005; Johnson 2000; Creighton 2002; Creighton and Higham 2004: 5-18).

Rackham (1993: 85-92) has already noted that Cressing Temple's 13th-century timber-framed barns are restricted in its width by the available timber. Following on from that, it is argued here

that not only was the width of buildings constrained but without the simple scarf joint the height, width and often the length of any timber-framed building would equally be constrained. The area of the top of many of the motte earthworks of earth and timber castles is relatively small, suggesting that the buildings that stood on them were of restricted dimensions (Higham and Barker 2004: 194-243). It is argued that the occurrence of oak in the vicinity of the castle and the constraints of carpentry technology appear to be operating on excavated examples. At Hen Domen the keep is a comparatively small structure, 6m x 6m square, in relation to the total area of the castle. At Abinger the post-holes of the keep suggest an even more modest size, a rectangle of 10½ feet (3.2m) x 9 feet (2.7m). At Goltho the base of the tower on the motte was 2.7m x 2.7m square. The largest area of the base of an excavated timber keep is found at South Mimms, where the base of the central motte tower was 30 feet (9.15m) x 30 feet (9.15m) between post holes (Figures 13-18; Beresford 1987: 103-6; Higham and Barker 2000: 61-81; 2004: 279, 283 & 285). The relatively short lengths of timbers suggest that the availability of outsized timbers was limited in the vicinity of many earth and timber castles or in the woodland resources of their agent's fiefs in a county as poorly wooded as Suffolk between 1066 and 1200. They may also suggest that timber from 'standards' or 'hedge' oaks, rather than the limited number of outsized oaks, were the normal timber available for castle building and that this inherently restricted the size of many earth and timber castles in Suffolk.

This timber constraint also operates on stone castles in the 11th and 12th centuries. Many great towers or keeps during this period are restricted in area by the length of timber available to roof the structure. For example, the St James gatehouse c.1140 at St Edmund's Abbey occupies a restricted area (Figures 34-39). The gatehouse is a hollow ashlar-faced rectangular column horizontally partitioned by timber floors and a roof, all mounted on stone corbels. The alternative construction method in keeps with larger areas was the introduction of a crosswall that partitions the keep, as evidenced at Colchester, Dover, Headingham, Porchester, Castle Rising, Rochester and the Tower of London (Renn 1973: 152-3, 169-173, 281-5, 295-8, 299-303, 326-330). The purpose of this crosswall was functional and designed to support a double roof. This was necessary in these castles because there were insufficient lengths of 'outsized' timber available in sufficient quantity, to span the width of the keep. Only one large East Anglian stone keep was built between 1066 and 1200, which does not evidence a crosswall and this is Norwich (Renn 1973: 259-62).

It is possible that, being a royal castle, the builder's of Norwich castle either had access to a quantity of timber from 'outsized' oaks from royal estates or could purchase and transport such timbers by water to the medieval port of Norwich. Alternatively, Goodman's elite model of carpentry technology (Milne 1992a: 131), would suggest that the scarf joint was available to

royal carpenters up to 50 years before it is evidenced in the carpentry of the London waterfront and at Cressing Temple. Such a model would support Rogers' hypothesis that the technology of castle building was restricted (Rogers 1992: 234-248).

3.27.3: Timber and carpentry conclusion

Small earthwork remains of castles so disparagingly dismissed as 'fortlets' by Eales (1990: 49-78) and Coulson (1994b: 67-92), are nothing of the sort. They are castles constrained in their size by the availability and maturity of the local timber-supply and the lack of the technical means before c.1170 to build a timber-framed building higher and wider than the longest pieces of timber available.

Longer buildings evidenced with groundsill construction are found in the Bailey at Hen Domen, but these are dated by the excavators to the 12th-century phase of the castle. It is possible that the length of these buildings represents the introduction of the simple scarf joint in an elite building context or, more likely, that they were arcade-built, that is as a series of smaller buildings joined together end to end to form a single continuous structure. However, while an adequate form of building for vernacular buildings but is not really practical for fortress building due to its relative structural weakness. It is possible that the new carpentry technology evidenced in the London waterfront c.1170 and in Essex by c.1180-90 was available to castle building agents before that date. Such a supposition would imply that the elite-first model of access to carpentry technology suggested by Goodburn and Rogers is correct, rather than Milne's argument that these innovations were driven by wider social factors (Milne 1992a: 131; Rogers 1992: 234-248).

Earth and timber castles before c.1170, were constrained in size and morphology in a fundamentally different manner from stone castles, because earth and timber castles are subject to an entirely different set of material and technical constraints. It is argued that the construction materials and technology of earth and timber castles, especially those available to non-baronial castle-building agents, have profound implications for those castle studies that are concerned with the layout of stone castles and the claims that they make about how space in castles was used, movement around castles and the symbolism that can be read into the castle's morphology (Dixon 1992: 85-107; 1996: 47-56; 2000: 121-139; Dixon and Lott 1993: 93-101; Dixon and Marshall 1993: 16-23; 1994: 410-32; 2002: 235-43; Marshall 1998: 110-25; 2002a: 27-36; 2002b: 203-14).

3.28: The ‘pays’ of Suffolk and problems with their definitions

A ‘pays’ is the term used to describe ‘each landscape as a distinctive and unique assemblage of facets or components’ (Muir 2000: 6). Such a region does not conform to any administrative division but is recognised by its inhabitants as having a ‘terrestrial unity’ of its own, based upon its physical and cultural endowments (Blache *et al* 1926: 6; Postgate 1962: 80; Everitt 1977; Fox 1989). In this thesis a pays is taken to be an environmental niche, defined by its climate, topography, geology, hydrology and macro-flora, which gave rise to distinct and localised cultural practices evidenced in Suffolk in the 11th and 12th centuries (Appendices 4.1-8).

Landscape studies have traditionally subdivided Suffolk into such distinct landscapes or ‘pays’ (Kirby 1735: 1-2; Young 1797: 3-5; Raynbird 1849: 2-5; Darby 1952; Kerridge 1967; Trist 1971; Dymond 1968; Martin 1999a; Williamson 2003). Despite the popularity of pays as a classification, they are problematic:

1. Not all Suffolk pays have received the same academic attention, for example, the fens have received a large amount of academic attention yet the larger London Clay District has received none.
2. Pays are constructs displaying considerable local diversity within themselves (Williamson 2003: 114-5). They are highly problematic in terms of:
 - a. Accuracy: By 1086 Nayland, Bures, Menham, Gorleston, Knettishall, Rushford, Mildenhall, Rumburgh and Thetford were recorded in more than one county in the Domesday Book. Furthermore, Harkstead was an outlier of Brightlingsea in Essex and Exning was still part of Cambridgeshire until the mid-12th century (Welldon Finn 1967: 51-3).
 - b. Scale and resolution: As we can see from the drift geology of the previous chapter, it is difficult to convey the full complexity even by means of a map, for example, of all the soil types found within the boundaries of a single field let alone a detailed soil study of a single pays (Hodges *et al.* 1984: xx-i).
 - c. Number: There is no agreement on how many pays occur in Suffolk. Different models have been produced by different disciplines, defining and classifying their models according to their specific research interests. Kirby divided Suffolk into three ‘pays’: Woodland, Fielding and Sandland (Kirby 2004: 1-2). Darby identified six

regions (Darby 1971: 204-7). Dymond simplified this model back to three: Breckland, High Suffolk and Sandlings (Dymond 1968). The Countryside Commission and English Nature divided the county into seven distinct areas (Martin 1999a: 20-1 & 191n). Williamson has offered yet another model, based on soil types and subdivided into nine 'pays' (Williamson 2003: 63). Finally, Suffolk Archaeology Unit has since 1998 been undertaking an English Heritage funded Historic Landscape Characterisation project in the county, focussing on field patterns, boundaries and hedge-rows (Suffolk Archaeology Unit 2007). Problems of classification are further compounded by sub-classes within each landscape, for example in the Brecklands (Sussams 1996: 5-6).

d. Definition: There is no theoretical agreement on what precisely constitutes a 'landscape'. For example, some German geographers have used the term '*Landschaft*' in an explicitly essentialist manner by identifying a 'spiritual' or 'aesthetic' dimension to landscapes (Gold 1980: 115-6). Alternatively, anthropologists such as Frake have offered an impressionistic, data-free, post-modernist and unrecognisable interpretation of the East Anglian landscape (Frake 1996: 229-257).

The inclusion of potentially essentialist notions such as 'pays' is justified here, because the different landscape types represent ecological niches, which are empirically defined by their climate, topography, underlying geologies and hydrology. These in turn give rise to the macro-flora and ecology of each district. Furthermore, the historical evidence of specialised exploitation or processing of environmental resources within discrete regions of 11th- and 12th-century East Anglia, for example sheep-barley production, eel and herring fishing, gives rise to distinctive local cultural practices (Darby 1971: 204-207; Britnell 1996: 48).

Therefore, in view of the conceptual limitations upon pays, Suffolk is subdivided, for the purpose of this thesis, into eight pays: Breckland, East Anglian Heights, Fenland, London Clay District, Broadlands, High Suffolk, South Suffolk and Sandlings (Map 3.21). An outline description the topography, geology, hydrology, Domesday timber resources and local cultural practices of each pays is given in Appendices 4.1-8, allowing us to plot the distribution of castles across the different environments found in Suffolk during the 11th and 12th century (Map 3.22).

3.28.1: Pays summary

The numbers and percentages of castles are distributed across the pays of Suffolk (Map 3.22) as follows:

High Suffolk: 12 (44%)

South Suffolk: 7 (26%)

Broadlands: 1 (4%)

East Anglian Heights: 0

Brecklands: 3 (11%)

London Clay District: 1 (4%)

Fenland: 0

Sandlings: 3 (11%)

From this it is possible to conclude that:

1. The pays of High Suffolk has the highest number of castles, with 12 (44%) of the castles in the county. It should also be noted that this pays has the largest amount of woodland, highest rate of precipitation, a lower topography, a better geology for well-sinking, and raising earthworks and the highest density of ponds. Moreover, this pays also has both the highest concentration of both total and free populations.
2. The pays of High and South Suffolk combined contain 19 (70%) of the castles in the county, but this area also accounts for approximately 70% of the total area of the county.
3. There are few castles in the London Clay District or Suffolk Broadlands; and those that do exist are located upon on discreet island geologies, evidenced at Nayland and Burgh.
4. In Suffolk the pays of the East Anglian Heights and Fenland do not possess castles, though castles are evidenced in the same pays outside the county.
5. Castles are frequently located close to the converging boundaries of more than one pays, for example, at Bramsfield, Clare, Creeting, Desning, Freckenham, Great Fakenham, Haughley, Ipswich., Lidgate and Otley.

3.28.2: Pays Conclusion

Environmental factors of topography, geology, hydrology and Domesday timber-supply, along with their respective technologies evidenced in the 11th and 12th centuries, constrain the claims that can be made about the normative earth and timber Suffolk castle.

The climate, topography, geology and hydrology of Suffolk have created different environments and ecologies within the county, which in the medieval period gave rise to distinctive cultural practices and landscapes, here referred to as 'pays'.

The largest concentration of Suffolk castles were located in the pays of High Suffolk, which contains the best environmental and ecological resources for castle building, despite the high levels of free population and therefore more powerful civil institutions.

Chapter 4.0: *Sælig Sudfolc*⁶.

4.1: Introduction

The purpose of this chapter is to explore the - cultural, structural and societal - level of Braudel's *Annales* model, and it has three specific objectives:

- To explore the cultural level of history by identifying an important *mentalité* operating in 9th- and 12th-century Suffolk arising from the cult of St Edmund.
- To explore the structural level of history by identifying the significance of the institution of the Abbey of St Edmund in Suffolk between 1066 and 1200.
- To explore the societal level of history by identifying the military and feudal organisation of the Abbey - the Knights of St Edmund - that included numerous castle-building agents and how this was used as a means of social control over the new Anglo-Norman elite.

The overall aim is to establish how the cult and Abbey of St Edmund influenced castle building within the Liberty of St Edmund and Suffolk in the 11th and 12th centuries (Map 2.7).

No study of Suffolk in the 11th and 12th centuries can avoid the cult, abbey or barony of St Edmund, the last Anglo-Saxon king of East Anglia (d. 869). The swift generation of the cult is all the more remarkable as East Anglia remained part of the Danelaw until 917 and thus the cult had developed in an area under occupation (Whitelock 1970: 218; Ridyard 1988: 214-5).

The economic, political and ecclesiastical power of St Edmund's abbey - it was one of the county's largest feudal landowners, controlled the eight and a half hundreds of the Liberty of St Edmund, where the Abbot acted as viceroy and enjoyed extraordinary ecclesiastical autonomy - were all predicated on the physical presence and supernatural power of St Edmund. It was widely believed in the 11th and 12th centuries, and promoted by St Edmund's Abbey, that this supernatural power was regularly exercised in the defence of St Edmund's shrine, his community and his property. The site of his shrine was where the *potentia* of the saint was most powerfully demonstrated (Brown 1981: 1-49 & 106). There are records of demons being cast

⁶ Later referred to as 'silly Suffolk', but originally OE *Sælig Sudfolc* 'blessed or holy Suffolk' (Bosworth & Toller 1898: 811).

out, people claiming to see visions and mysterious lights being seen at the shrine (Arnold 1890: 27, 38, 100, 118, 195, 199 & 372; 1896: 230). Moreover, apart from Bury, St Edmund had six Suffolk churches dedicated to him in the county, at Hargrave, Assington, Bromeswell, Fritton, Kessingland and Southwold (Farmer 1978: 120-2, Matthew and Harrison 2004 17: 754-5, Map 4.1).

Davis (1955: 228) has argued that St Edmund had a specialisation:

‘He was the defender of men and the soul of the resistance...In death, as in life, St. Edmund was the saint who resisted tyrants’.

This was not his only specialisation. Ridyard (1988: 229-230) has emphasised the regional character of the St Edmund cult, his role as patron saint of East Anglia and his local popularity. Furthermore, Gransden (1995a: 45) notes that Edmund was a royal saint. Therefore, St Edmund had three distinct roles; as a figure of resistance to tyranny, as a regional martyr and as a royal saint. This explains both the local popularity of the cult and the later patronage by the kings of England of his shrine and community.

Beyond the shrine itself, the principal means of transmission of the cult of St Edmund was by means of the hagiographic biographies written about him that formed part of the liturgical life of his abbey and shrine. The hagiography of St Edmund developed between 869 and 1200, and this tradition formed part of the *mentalité* of Suffolk society until 1538. In addition, the chronological distribution of these hagiographies and the *topos* they contain give us important clues about dating aspects of the material culture associated with St Edmund, his Abbey and Liberty.

These hagiographies promoted the cult to a wider audience, and its success is demonstrated by chapels dedicated to St Edmund at Westminster Abbey, Rochester Cathedral, St Denis’ Abbey in Paris and Lucca Cathedral in Tuscany (Blum 1998: 57-68, Matten 1996:35). This hagiographic tradition was the product of two sources of agency. The first was the oral East Anglian folk tradition dating from before 987 and the second the official commissioned, edited and embellished hagiographies produced by the Church after 987. It will be argued below that there is a relationship between the hagiographies produced about St Edmund and the political crises that his abbey faced in the 11th and 12th centuries and that the abbey deliberately promoted the concept of a divine level of defence or protection for the shrine and property of St Edmund and his community. A *topos* was deliberately constructed of a psychopathic and vengeful saint with a special ability to target those who offended him, irrespective of rank, nationality or geographic location.

The Abbey of St Edmund permitted the construction of eleven castles within the Liberty of St Edmund between 1066 and 1200. Of these, only three had existed before 1135 and survived as functioning castles until after c.1200. The remaining eight castles were all constructed between 1086 and 1153, but none are evidenced operating as castles beyond c.1200. Although slighted as effective fortification, some of these castles continued to function as manorial centres, for example Court Knolls at Nayland (Everett and Anderson 2001).

Ten of the castles constructed within the Liberty were either built by Knights of St Edmund, by royal officials or other allies of the Abbey. These presumably were built with the permission of the abbey. Furthermore, all the castles appear to be located around the periphery of the Liberty, and it will be argued that this distribution protected the Liberty and core estates of St Edmund's Abbey. Only one castle at Milden is identified as hostile to the abbey (Chapter 5.4.).

4.2: Saint Edmund

Numerous myths would later be associated with Edmund, but sources about his life are rare (Whitelock 1970: 217, Ridyard 1988: 61). The 'Parker' manuscript of the *Anglo-Saxon Chronicle* c.890 records for 870 [i.e. 869]:

'In this year the raiding army rode across Mercia into East Anglia, and took up winter quarters at Thetford. And that winter King Edmund fought against them, and the Danes had the victory, and killed the king and conquered all the land' (Swanton 1996: 71).

Asser's *Life of King Alfred* (c.893) notes:

'In the same year, Edmund, king of the East Angles, fought fiercely against that army. But alas, he was killed there with a large number of his men, and the Vikings rejoiced triumphantly; the enemy were masters of the battlefield, and they subjected that entire province to their authority' (Keynes and Lapidge 1983: 78).

The earliest hagiography of St Edmund, written in Latin at Ramsey Abbey c.985-7, was Abbo of Fleury's *Passio sancti Eadmundi Regis et Martyris* (Arnold 1890: 3-25; (Gransden 1995a: 20-78), followed by a second, vernacular version c.990, known as Aelfric of Cerne's *Liber Sancti Ædmundi Regis et martyris* (British Library Cotton Ms. Julius E. vii; Needham 1976: 43-59; Swanton 1993: 158-164). Therefore, the first hagiographies of St Edmund in both Latin and Old English were produced within the historical context of a resumption of Viking raiding in East Anglia, culminating in the Battle of Maldon in 991 (Williams 1999: 98).

It is argued here that Abbo and Aelfric's hagiographies were part of a propaganda campaign, an impression enhanced by the vernacular version, to promote the cult of St Edmund. As the

majority of the population were largely illiterate, the hagiographies would appear to have been aimed at those members of the elite who could read and members of the clergy, in order to pass on the hagiographic tradition. The purpose appears to have been to rally the Christian population of England at a time of renewed threat, to encourage resolute resistance to the invaders, even if initially defeated, and like St Edmund to refuse to abandon the Christian faith regardless of the personal cost.

The *Passio* makes a remarkable claim about the veracity of the evidence it contains. Abbo states that his source is none other than Archbishop Dunstan, who in his youth had personally heard the story of St Edmund's martyrdom at the court of King Athelstan from an eyewitness (Arnold 1890: 3-5). This eyewitness was by then an old man but claimed that he had been Edmund's armour-bearer on the day of his death. As Edmund died in the winter of 869-870, Dunstan was born in 909, Athelstan became King in 924 and the *Passio* was written in 985/7, it is chronologically possible for this claim to be true, especially if the armour-bearer was a youth at the time (Gransden 1995a: 57-58).

Ridyard (1988: 64) argues that Dunstan and Abbo almost certainly embellished the armour-bearer's story in their interpretation of events of 869. He also notes that Abbo's account differs from Asser's in a number of ways, but credits Abbo's account as the more reliable (Ridyard 1988: 67). This is because, Ridyard argues, the Chronicle and Asser's work are both West Saxon texts written from a Wessex perspective, and thus the details of what happened in East Anglia in 869 are only mentioned in passing. The evidence for this, Ridyard argues, is:

1. That Whitelock has pointed out that the Chronicle does not explicitly state that Edmund was killed in battle but could be interpreted as meaning that he was killed in the aftermath of military defeat (Whitelock 1970: 217-8).
2. That the identification by Abbo of Edmund's killer, called *Hinguar* by Abbo, is significant. He is identified by Ridyard as *Ívarr inbeinlausi*, son of *Ragnar loðbrok*, a known historical Viking leader operating in England at this time (Ridyard 1988: 67-68).
3. That the Vikings offer to accept Edmund as their sub-king for East Anglia has historical parallels, for example Egbert the Viking-appointed ruler of Northumbria, and Ceolwulf, the king of Mercia.

Ridyard concluded that:

‘It is best understood as an indication that the Vikings proceeded with the conquest of East Anglia in a manner which was wholly characteristic of their *modus operandi* elsewhere. The only obstacle to the perfect conquest was that the Christian king refused to play; his capture and execution was the inevitable consequence of that refusal’ (Ridyard 1988: 69).

4.3: The date of St Edmund’s martyrdom

The date of the saint’s martyrdom appears to be his feast day on 20th November and may be significant (Farmer 1978: 120-2). If *Ívarr inbeinlausi* returned to East Anglia following raiding in Northumbria, he must either have come by land, as suggested by the Anglo-Saxon Chronicle account (Swanton 1996: 71), or by sea, as implied by Abbo’s account (Arnold 1890: 10-11), however a joint expedition is equally possible. Either way, if the date of St Edmund’s martyrdom is historically reliable, the Vikings must have come to East Anglia during the winter of 869, outside the traditional campaign season. A surprise winter campaign by *Ivarr* would have seriously limited Edmund’s possible response. Abbo’s version makes it clear that Edmund was a skilled warrior but had no army, could therefore not resist the Vikings militarily and was probably killed during failed negotiations (Arnold 1890: 7, 8, & 10-13).

4.4: The site of Edmund’s martyrdom

The most important new information revealed by Abbo is the discovery of St Edmund’s head at *Haegilisdun* wood guarded by a wolf (Arnold 1890: 10). Traditionally *Haegilisdun* has been identified as the Domesday *vill* of Hellesdon, in Norfolk (TG 12 20) (Whitelock 1970: 220; Brown 1984: 61, 1). The place-name *Haegilisdun* is interpreted as ‘Hægel’s hill’ (Ekwall 1947: 221; Watts 2004: 294). The site is located on the north bank of the river Wensum in the northwestern suburbs of modern Norwich. It is located just below a restriction of the river’s navigation, evidenced by the *vill* place-name just upriver at Drayton (TG 13 18) (Brown 1984: 20, 26, Appendix 6.2.1). Hellesdon is some 6.75km due north of the major, possibly royal, middle-Saxon site at Caister St Edmund (Ashwin and Bates 2000, Penn 2000). The traditional Norfolk location of St Edmund’s martyrdom has been challenged by a more recent, but less credible, alternative West Suffolk site of martyrdom (West 1984: 223, Dymond 1984: 224-5, Ridyard 1988: 218-220, n.34 218-9, Scarfe 2004: 57 n8; Appendix 9.0).

4.5: The uncorrupted body of St Edmund

In late antiquity Catholic teaching had adopted the populist neo-pagan idea that the resting place of the soul was located at the place of burial or martyrdom (Brown 1981:1-49). Over time such concepts led to the creation of a landscape of holy sites, identified with the veneration of

particular saints at particular locations. Evidence suggests that there was serious dislocation of these cult-centres in East Anglia during the 8th-10th centuries.

As scholars have noted a key element of the myth of St Edmund is the incorruptibility of St Edmund's body (Arnold 1890: 19-20, 22-25, Scarfe 1970: 303-317, Gransden 1994: 135-168). The incorruptibility of a saint's body is a common feature in Anglo-Saxon hagiographies; for example the uncorrupted bodies of St Cuthbert (d. c.687) (Matthew and Harrison 2004 14: 829-34) and St Æthelfryth (d. c.679) (Matthew and Harrison 2004 1: 429-32). This was taken to be the evidence of residual holiness within the mortal remains of a saint and visible proof of their sanctity (Arnold 1890: 4 & 24).

The uncorrupted status of St Edmund's body is first recorded by Abbo, writing c.987/90, who states that, at the original shrine a widow called Oswyn regularly washed and looked after the body (Arnold 1890:19-20). Abbo records that the body had miraculous powers; for example an impious thegn Leofstan doubted that the body was uncorrupted and demanded to view it, only to go mad and die a terrible death. Herman's post-Conquest hagiography records Abbot Leofstan (1044-1065) viewing and testing the uncorrupted remains of St Edmund by tugging at the saint's head, to make sure it really was re-attached to the body. Furthermore, the miraculous qualities of St Edmund's relics were demonstrated by their ability to become immobile save in the hands of their true guardians (Arnold 1890: 23, 41, 42, 45, 54, 90 & 159).

Apart from the two cases above, the viewing of St Edmund's body occurs on at least three other occasions, each of which was a highly important event. First, his body was viewed shortly after being moved to Bedericsworth c.917/42 (Arnold 1890: 19-20), probably the time when Bishop Theodred of London viewed it (Arnold 1890: 22-3). Secondly, Edmund's body was inspected by Æthelwine (Arnold 1890: 54). Finally, Abbot Samson in c.1190 went to extraordinary lengths to secretly view the saint's body and check on the corpse's condition (Greenway and Sayers 1998: 98-102).

St Edmund's uncorrupted physical remains and relics were the abbey's single most important assets (Arnold 1890: 22, 53, 111, 132, 169). These represented incontrovertible evidence of the power of God, St Edmund's holiness and the justification for the abbey's existence. Therefore, any suggestion that the body was not St Edmund's or that the body was corrupted in any way was taken to be a serious threat to the Abbey of St Edmund (Arnold 1890: 86, Scarfe 1970: 309-10, Figure 32).

4.6: Appropriated *topoi* in St Edmund's hagiography

It is impossible to read Abbo as straight history. Gransden (1995a: 29-40) has pointed out that many of the details in Abbo's work were borrowed from existing continental hagiographies, with vignettes from the passions of Saints Stephen, Sebastian, Dionysius, Rusticus and Eleutherius all appear in Abbo's hagiography. Abbo's work invites comparison with elements from the hagiography of other English saint's lives, for example St Cuthbert and the incorruptibility of St Edmund's body or St Oswald and the beheading of St Edmund. We can conclude that even Abbo's account is largely a combination of different hagiographic *topoi* and East Anglian folkloric traditions, so that historical evidence drawn from it must be treated with caution. However, Gransden (1985: 14) has also argued that certain historical events such as Thurkill's raid on Ipswich c.1010, probably added factual elements to the myth in later versions. Despite this, Gransden believes that Abbo's account and the later hagiography record genuine events in the history of the St Edmund's cult.

The evolution of the hagiography of St Edmund includes the co-option to the saint of *topoi* and certain specialised miracles, which seem to be linked to a specific historical context. For example; a common *topos* that first occurs in Herman's account is St Edmund as a protector of seafarers. A number of stories in Herman relate to his patronage of travellers and seafarers (Arnold 1890: 69-72, 73-4, 92). However, such a *topos* only occurs in Herman's account c.1096, following the transfer of St Botwulf's relics to Bury c.1044-1065. It would appear that the special protection for travellers, seafarers and fishermen, normally associated with St Botwulf in the early 11th century, was attributed to St Edmund at Bury by the late 11th century (Robinson 1989: 66-9, Arnold 1890: 73; Appendix 10.0).

It is also possible that some of the *topoi* in St Edmund's hagiography also contained pre-Christian East Anglian folk-lore. The wolf *topos* in the St Edmund myth is an example. According to Abbo, the wolf was guarding the martyr's head and followed those who reclaimed it back to their habitation (Arnold 1890: 18ff.; Arnold 1896: 214ff.). The wolf is an early symbol of East Anglia as evidenced by the British 'J' 'Norfolk Wolf' gold coin type, the earliest Iceni coins, struck c.65 BC with a running wolf figure on one face (Hobbs 1996: 29, Davis and Williamson 1999: 22). It is suggested that here the role of the wolf in St Edmund's hagiography is that of the regional familiar, symbolically guarding the holy remains of the last *Wuffing* King. Moreover, the wolf also had a deep symbolic meaning for the pagan Vikings: *Fenrir* the wolf was supposed to devour *Odin* at *Ragnarok* (Ellis Davidson 1993: 76-9). Therefore, the unusual *topos* of an animal appearing as a heroic light in a Christian hagiography might be an allusion to its role as ancestral enemy of the principal pagan god.

4.7: The St Edmund coin series c. 890-920

The first evidence for St Edmund's cult is a coin series, known as the St Edmund penny c.890 (Blunt 1970: 234-255, Grierson and Blackburn 1986: 319-320, Bibre 1998, Chapman 2003).

These consist of a series of silver pennies or, less frequently, half-penny coins, struck with the legend 'SCE EADMVUND REX' and the majority of known examples form part of the Cuerdale hoard (Blunt 1970: 240-243).

Blunt (1970: 238-9 & 251-253) argued that St Edmund's coins circulated in East Anglia and the northern Danelaw and that the coin series must have been struck at a mint in East Anglia, as one of the Northampton hoard coins bears the legend *Nordvic*, suggesting a mint at Norwich.

However, in the face of growing military power and universal claims by the Kings of Wessex, it could equally well have made sense for the Danish rulers of East Anglia to promote the cult of St Edmund as a statement of regional autonomy. There is no evidence of the Wessex dynasty promoting the St Edmund cult as they did St Cuthbert to advance their political ambitions in Northumbria. However, the first evidence of the English Church promoting the cult of St Edmund for political purposes is Abbo's account, written in the context of a renewed threat of Viking invasion c.985-7 and following the defeat at Maldon in 991.

Besides the Danes had five good reasons of their own for promoting St Edmund's cult:

1. It publicly demonstrated their contrition and conversion to the Christian faith.
2. It won them some local popular support by their patronage of the cult.
3. It prevented the cult becoming a point of resistance in the hands of others.
4. It promoted local regional identity as distinct from the universalism implied by the *Angelcyn* concept being promoted by Wessex (Chapman 2003: 42).
5. It associated the occupier's currency with the person and cult of St Edmund, making it more acceptable as a legitimate medium of exchange for the occupied population.

4.8: St Edmund's relocation to *Bedericsworth* c.917-942

Following the reconquest of East Anglian, the people of the region were able to relocate the body of St Edmund, from his original unidentified shrine to a vill called *Bedericsworth* c.917-942 (Whitelock 1970: 222; Map 4.1). *Bedericsworth*, described as a royal *vill* by Abbo c.985/7, already possessed a Minster Church of St Mary's. Bede claims that King Sigebert (d. c.635-7) founded a new monastery to which he retired (Colgrave and Mynors 1969: 269; Appendix

10.1). It is possible that St Sigebert's new foundation was at St Mary's and became the focus of his cult prior to the 9th century and suggests a link between *Bedericsworth* and the cult of a martyred East Anglian King 230 years before St Edmund's body was interred in the town. However, St Sigebert is only linked to Bury by one reference in the *Liber Eliensis* and he had no dedicated chapel in the new post-Conquest abbey complex (Dugdale 1846 3: 98; Colgrave and Mynors 1969: 190, 266-8, 270; Matthew and Harrison 2004 50: 592-3).

4.9: *Bedericsworth* c.942 to 1066

According to Abbo's account, the new shrine of St Edmund was located within a large new timber church, constructed by the people of the whole province, rather than by the ecclesiastical authorities, and that it was a place of sanctuary exempt from secular authority (Arnold 1890: 30-2, 119). Herman claims that the original timber shrine and church of St Edmund was rebuilt in stone by Cnut c.1021-31, with the dual dedication St Mary and St Edmund. The original shrine had been staffed by a college of priests, but Cnut replaced them with twenty Benedictine monks from St Benet of Holme c.1020 (Arnold 1890: 47, 342 & 360).

Archaeological evidence for the earlier Anglo-Saxon shrines and churches is limited, due to the construction of the later and far larger Norman abbey over the site. It is thought that the site of the town of *Bedericsworth* originally lay to the south of the abbey complex. Southgate Street originally ran straight across the present abbey site to Northgate Street and it is along this axis that middle and late Anglo-Saxon archaeological evidence has been identified (Statham 1998: 99 & 105 fig 1.). It is probable the late Anglo-Saxon town remained around the Old Market or St Mary's square, outside the permanent *burh* defences as occurs at Clare and Witham in Essex (Appendix 1.5, Figures 30-1, 73; Rodwell 1993). Cnut's rotunda was not the only ecclesiastical building within the *burh* and the Church of St Mary (demolished c.1121-48) and a *basilica Sancti Benedicti*, with a residential tower and a *Porticus* (part-demolished c.1182-1211), were added to the complex before c.1066 (Gem and Keen 1984: 1-32).

According to Herman's description of Cnut's shrine for St Edmund, it:

'indicates that the relics of St Edmund, which were enshrined in the church, lay in a wooden reliquary or coffin situated on one side of the sanctuary and screened off by a curtain; on the other side the sanctuary was closed off by doors, and in front of these lay the choir' (Gem and Keen 1984: 1).

Besides its status as a royal town with a Minster church, *Bedericsworth*'s major advantage was its geographical location far from the coast or fen-edge and probably only seasonally accessible by river in the 11th century. This offered a greater degree of security from sudden Viking raids

than more exposed coastal or river locations. The first occurrence of the modern town name occurs as *Sancte Eadmundes byrig* c.1038 (Watts 2004: 105).

4.10: The creation of a necropolis at Bury St Edmunds c.1031-96

In the 11th and 12th centuries St Edmund's Abbey became a cult-centre for a number of other Anglo-Saxon East Anglian saints, for example St *Jurmin* (d. c.660+), St *Botwulf* (d. c.670) and later St Robert (d. c.1171-81), with chapels dedicated to them in the new abbey church built by Baldwin (Appendices 10.2-4, Map 4.1). St *Botwulf* and *Jurmin*'s remains were translated to Bury St Edmund's from Grundisburgh and Blythborough respectively (c.1044-65) (Arnold 1890: 361). An Ely tradition also records that a St *Ælgetus* the farm-bailiff of St *Æthelfryth*, was buried and venerated at St Edmund's Abbey (Fairweather 2005: 55 & 423-4). This created a concentration of East Anglian saints' cults at Bury St Edmunds.

This not only brought in additional pilgrims, but prevented popular rival cults establishing themselves as regional alternatives to St Edmund. Indeed, it will be argued below that the creation of this necropolis of saints cults at Bury led to a confluence of the different hagiographic traditions. This led to the introduction into the hagiography of St Edmund of *topoi* from the hagiographic traditions of St *Botwulf*, St *Æthelberht* (Appendix 9.3) and possibly St *Jurmin*. The relocation of all these different saint's shrines within Cnut's *burh* at Bury also created a regional spiritual 'redoubt', which could not be seized by a sudden amphibious raid and to act as a rallying point for East Anglian Christianity in the face of further Viking raids.

4.11: The wealth of the pre-Conquest Abbey of St Edmund

A survey from Bury St Edmund's c.1044 suggests that the shrine's wealth was already exceptional (Douglas and Greenaway 1955: 819; Map 4.2) and before 1066 the abbey held 221 estates mainly in Suffolk (Rackham 1998: 137). Anglo-Saxon charter evidence records that Theodred, the bishop of London, granted St Edmund's shrine estates at Nowton, Horningsheath, Ickworth and Whepstead, and Ealdorman *Ælfgar* gave it Cockfield (Whitelock 1930: 3-7). These were the first major grants of land to the shrine c.942-951 and are the first evidence of a process of amassing estates and property to St Edmund's Abbey that would continue until 1539. The success of the shrine in attracting grants of land or gifts from secular patrons and donations from pilgrims may explain why Svein Forkbeard's demand for half the shrine's wealth genuinely terrified the religious community at Bury (Arnold 1890: 115), although, Svein may have been especially hated in East Anglia, as he may have been the victorious Viking commander at Maldon in 991 (Matthew and Harrison 2004 53: 454).

4.12: The pre-Conquest royal patronage of the shrine of St Edmund

4.12.1: Cnut (d. c.1035)

Cnut is credited as the founder of the Abbey of Saint Edmund (Arnold 1890: 342-4) and was the first royal patron of the shrine. He had a profound influence on the later development and significance of St Edmund's shrine and town, even Cnut's father's death c.1014 was explained in terms of divine revenge by St Edmund by Herman c.1096 and added to the power of the myth (Arnold 1890: 32-39).

Cnut replaced the original college of priests at the shrine with Benedictine monks (Arnold 1890: 358-9), either from St Benedict's of Ramsey or St Benedict's of Holme c.1020 (Gransden 1985: 17-21). The introduction of Benedictines was important as it was an order closely associated with an elevated view of kingship, keen on reforming the church and raising standards, and through its wide international network had access to the latest developments in technology, literature, science and the arts.

Cnut replaced the original timber church c.917-42 with a new stone rotunda for the shrine of St Edmund c.1021-31 (Arnold 1890: 342, Whittingham 1971:4, Gem and Keen 1984: 1). He also allegedly conferred burghal status on the town, ordered the construction of fortifications (Figure 31), and gave the abbey the right to collect *Danegeld* and *Feoum* in the eight and half hundreds that would later form the Liberty of St Edmund. These activities are described in later charters, which, although spurious themselves, may well rest on genuine antecedents (Lobel 1935: 4-5).

4.12.2: Edward the Confessor (d. 1066)

Edward the Confessor was even more generous in his dealings with the abbey at Bury. It was the Confessor who, at the request of Abbot Ufi, granted his mother's estate of the eight and half hundreds of west Suffolk and Mildenhall c.1043/4 to the shrine (Arnold 1890: 48). This effectively gave St Edmund's Abbey 40% of Suffolk as its own mini-county. The grant of Queen Emma's personal property gave the Abbot almost absolute control within the area of the Liberty. Furthermore, the Edward personally went on pilgrimage to St Edmund's shrine (Arnold 1890: 128), constructed a new Church dedicated to the Saint at Caister St Edmund and had a chapel dedicated to St Edmund built within Westminster Abbey (Madden 1896: 35). A later medieval tradition linked St Edward the Confessor and St Edmund in a joint church dedication (Arnold 1890: 376-7; Stubbs 1880: 242-3).

4.13: The post-Conquest Abbey of St Edmund

During the late 11th and 12th century St Edmund's cult-centre and shrine developed into one of Europe's premier Benedictine communities, which enjoyed a unique degree of political power and ecclesiastical autonomy. Abbot Robert II c.1102-7 separated the property of the abbey from the Abbot's property to create the barony of St Edmund which he held personally from the King as a feudal vassal (Arnold 1890: 283 & 292).

The Benedictine monastery was more than simply a centre of political power. It was also the entry point of much technology into west Suffolk. The abbey church was the second largest in England and itself represented a major technological achievement (Ferne 1998: 1-15, Figures 28, 33, 42, 43). The *scriptorium* of the abbey remained operational longer than most and produced major works such as the Bury Psalter c.1032 and Bury Bible c.1130 (Noel 1998: 161-171; Heslop 1998: 177-83). The abbey's mint was not the only mint run by a major ecclesiastical figure. The bishoprics of Canterbury, York and Durham also had the right to mint coinage, but that was done for them by royal officials in royal mints. St Edmund's abbey uniquely employed its own officials to operate its own mint (Eaglen 1998: 114). Despite being in a region with virtually no source of metal, Bury St Edmunds was during the 11th and 12th centuries a major metal-working centre (Campbell 1998: 57-68). The abbey and town of Bury St Edmunds was therefore also the production point of a considerable amount of material culture in Suffolk at the time.

The abbey and its new planned town (Figure 30) pioneered the large-scale marketing of wool through its markets but also processing into cloth during the 11th and 12th centuries. Fulling machines are evidenced from c.1086 in Normandy (Gimpel 1976: 14), at *Lafham* and Hopton in Suffolk c.1180 (Davis 1954: 51 & 59; Dymond and Betterton 1982: 3) and at Bury St Edmunds c.1190 (Greenway and Sayers 1998: 91). Around 1202 King John ordered that cloth production be standardised in terms of quality and width and that those towns that wished to produce cloth but did not conform to the new standard had to pay a fine, probably calculated on the amount of cloth produced. Three East Anglian towns paid this fine: Sudbury paid £1, while Norwich and Bury St Edmunds paid £5 each (Pipe Roll 4 John: 115).

4.14: The Abbot of St Edmund's Abbey as royal viceroy in west Suffolk

Edward the Confessor first appointed Abbot Ufi as his viceroy within the Liberty of St Edmund c.1044 (Appendix 11.0). This was an important and valuable privilege, which drew the Abbey of St Edmund effectively into a national system of royal administration. Cam (1944: 181-204) has argued that, as royal viceroy the Abbot had three tasks: judicial, fiscal and administrative.

4.14.1: Judicial function

The Abbot was required to maintain a great court at Bury (Figure 45) and ensure that twice a year each hundred held a court called a *tourn*. At the *tourn* frankpledges were inspected, jury inquests were undertaken and criminal offences dealt with. The Abbot's duty also required him to ensure that the sentences of the courts were carried out, that fines due were collected by the bailiffs and paid to him as the royal representative (Cam 1944: 190). The jurisdiction of the Abbot's great court even included responsibility for royal jurisdiction, *jura regalia*, such as when the Abbot insisted on a case of treason being tried in his court c.1149 (Cronne and Davis 1968: xxvii). The Abbot was also responsible for administering the profits of justice from each of the hundred courts in the eight and half hundreds of St Edmund, which met every three weeks (Davis 1954: xxxi).

4.14.2: Fiscal function

The Abbot was required to collect certain monies owed to the King from fines, *ammercements* or dues, arising from payments for writs and fines imposed by the justices in *eyre* or as customary payments. Some of these sums raised on behalf of the King had been granted by charter to the Abbot, for example *Danegeld*; however, it was still the responsibility of the Abbot to ensure that the remaining sums were paid into the royal exchequer (Cam 1944: 190). Although entitled to this income from fines, the abbey often found itself having to reclaim from the exchequer what it was owed (Redstone 1915: 203).

4.14.3: Administrative function

The Abbot was responsible for royal government within the Liberty. As viceroy he was also presumably responsible for licensing castle building within the Liberty. To assist the Abbot a body of abbey officials was created who enjoyed quasi-royal authority within the Liberty and, as we shall see, included military officials such as Adam and Robert de Cockfield (Appendices 16.7.1-2).

4.15: Papal patronage

The Abbey of St Edmund maintained an especially close relationship with the Pope, and the abbey's loyalty was rewarded with a series of valuable concessions. These included papal and royal letters exempting the abbey from the jurisdiction of the bishop of Norwich *c.* 1090 (Cox 1907: 58, Arnold 1890: 344-350), the archbishop of Canterbury *c.* 1186 (Arnold 1890: 283-4) and, finally, the papal legate *c.* 1198 (Arnold 1890: 285). This is also reflected in the material culture produced by the abbey, for example in the inclusion of a mitred figure on the Abbot's seal produced by Abbot Samson, which was a highly public rejection of episcopal authority over St Edmund's shrine (Greenway and Sayers 1998 130 n.24). Such a privilege was extraordinarily advantageous, for two reasons:

1. It guaranteed St Edmund's Abbey almost complete political autonomy, allowing the Abbot complete freedom to run his abbey and barony subject only to the demands of the Rule of St Benedict and his secular responsibilities to the King.
2. It ensured that the wealth that flowed into the shrine of St Edmund was not shared with any third party. This was important because controlling and enjoying the profits from the shrines of saints had long been an important source of episcopal revenue (Brown 1981: 33). By excluding others from any claim over the shrine or the wealth the abbey, St Edmund's was able to keep the vast majority of the income for its own exclusive use.

In return for such privileges, the Abbey of St Edmund's was a supporter of the Holy See, and the Abbot acted as a senior figure in the English Church hierarchy. The Pope regularly appointed the Abbot of St Edmund's to undertake certain tasks on his behalf. Abbot Samson, for example was appointed a judge in ecclesiastical cases by Pope Lucius III in 1182, was appointed to arbitrate between the Archbishop of Canterbury and the monks of Christ Church in 1184 and between the Archbishop and the Canons of Lambeth in 1200. In 1201 he sat on a commission examining the claims of miracles relating St Wulstan and in 1203 on another papal commission to discuss dispensation of crusaders from their vows (Cox 1907: 60). However, it has been argued that growing papal favour saw St Edmund's Abbey shift its emphasis from supporting the King to supporting the Pope, which became a source of potential tension as the 12th century progressed and is evidenced by the struggle over the appointment of Hugh of Northwold as Abbot against the wishes of King John (Thomson 1974: xxxi).

4.19: St Edmund's Abbey's post-Conquest relationship with the Crown

All Abbots and Bishops were royal appointments in the 11th and 12th centuries, making the relationship between church and monarch a close one. Although the relationship between King and Abbey was important and mutually beneficial, it could also be demanding and a source of conflict. Pope Gregory VII (c. 1073-85) sought to free the church from secular control, end simony and insisted on free elections by clergy, which immediately brought the Pope into conflict with Henry I and the latter's appointment, without election, of Robert I as the Abbot of St Edmund (Arnold 1896: 4, Harper-Bill 1996: 287).

The election of a new Abbot also meant after 1066 the election of a new feudal Lord of St Edmund. By the 13th century a tradition was established whereby the abbey would offer the King a choice of candidates for the post of Abbot (Thomson 1974: 13 n.3, Greenway and Sayers 1998: 15-22). The King could either choose one of the candidates or refer the choice back to the Chapter. When an Abbot died, a period of time would elapse during which a new Abbot needed to be selected, during which, royal officials managed the abbey estates with all profits going to the royal exchequer. Vacancies are known to have occurred from 1097 to 1100, 1107 to 1114, 1119 to 1121, 1146 to 1148 and 1180 to 1182 (Cox 1907: 59-60; Douglas 1932: clvi). Later any sub-infeudation of abbey lands required the King's approval (Davis 1932: xcv).

4.19.1: William I (c.1066-1087)

William was both a patient of Baldwin's and a patron of St Edmund's shrine. During his reign he issued eleven charters in favour of Bury, including the crucial charter exempting St Edmund's from episcopal control (Cox 1907: 58, Arnold 1890: 344-56, Douglas 1932: 50-56, Thompson 1980: 46). Baldwin's French nationality must have greatly assisted relations between the Anglo-Saxon Abbey of St Edmund and the new elite of Suffolk. Some, such as Werno of Poix and a courtier called Rannulf, became monks at Bury shortly after the conquest (Rumble 1986: 14, 68.; Keats-Rohan 1999: 127-130). Count Alan of Brittany was buried in the south transept of the abbey (Whittingham 1971: 19), and Otto, the conqueror's goldsmith, along with his Anglo-Saxon wife Leofgifu, also made joint donations to St Edmund's Abbey (Douglas 1932: 60).

The fact that the new elite so quickly associated itself with St Edmund may in part be explained by the Normans' own notions of piety, as evidenced by the large number of religious communities founded in Suffolk between 1066 and 1200 (Cox 1907 53-156; Northeast 1999b: 70-1 & 201 & 201; Pestell 2004). St Edmund quickly became as popular a saint among the new Norman elite in Suffolk as he had been prior to 1066 among the indigenous population (Ridyard

1986: 179-208). The swift adoption of the cult of St Edmund by the Normans and the consistent loyalty to the crown of his abbey is in marked contrast to the stormy relationship between the new elite and St Æthelfryth and the Abbey of Ely (Ridyard 1988; Fairweather 2005: 204-8, 223-232, 338-391, 393-4).

4.19.2: William Rufus (1087- 1100)

William Rufus had little to do with St Edmund's beyond endorsing those rights his father had granted the abbey, eight charters survive from his reign (Douglas 1932: 57-61) and there is no evidence that he ever visited St Edmund's. However, there were rumours at his court that St Edmund's body was not incorrupted (Arnold 1890: 96; Scarfe 1970: 309-10).

4.19.3: Henry I (1100 to 1135)

Henry I's dispute with the Pope and desire to exploit his rights to the Abbey left St Edmund's without an Abbot for five years (c.1102-7). However, surviving charter evidence suggests that Henry I was a generous patron of St Edmund's, who issued thirty-four charters in favour of the Abbey, which is the greatest number of charters issued by any monarch in favour of St Edmund's abbey between 1066 and 1200 (Douglas 1932: 61-79). Furthermore, four other charters were issued at Bury dated c.1106 (Johnson and Cronne 1956: 54-5). These included important economic concessions: the grant of a St James wool fair c.1124-9 (Douglas 1932: 62 & 73-4; Johnson and Cronne 1956: 229-8), the confirmation of the Abbot's rights over the market in the town c.1123-9 (Douglas 1932: 70) and the right of the abbey servants to quarry and transport stone for the new abbey church free of toll c.1103-7 and c.1129-30 (Douglas 1932: 67 & 76-7). Henry also placed the Abbey under his special protection c.1102-7, took a Knight of St Edmund called Wulfward of Wangford as one of his own Knights c.1100-7 and confirmed the division of the Abbey's property between the Abbot and the Convent c.1108-14. Finally, King Henry I appointed Maurice of Windsor as Steward of the Liberty of St Edmund c.1114-1119 (Douglas 1932: 65-6, 69, 110-1; Appendix 12.0).

4.19.4: Stephen (1135 to 1154)

Stephen enjoyed a necessarily close relationship with St Edmund's Abbey. He had been granted the Honour of Eye in Suffolk by Henry I c.1113 (Sanders 1960: 43). This gave Stephen an intimate knowledge of the county for 22 years before becoming King, but also drew him into local politics with dire consequences for the region. Stephen issued twenty-two charters in favour of St Edmund's Abbey or Town and issued charters at Bury on at least five different occasions: c.1136-7, c.1140, c.1144-5, c.1147-8 and c.1148-54 (Cronne and Davis 1968: 94,

173, 256-7 283-4, 286). This evidence suggests that Stephen was the monarch who most frequently visited Bury, and in 1148 he appointed to the Abbacy of St Edmund his former personal tutor Ording (d. 1156) (Arnold 1896: 216; Whittingham 1999: 6).

Stephen's charters reflect the difficult situation that the civil war brought to Suffolk. It is significant that Stephen (c.1135-1141) confirmed Maurice of Windsor as steward of the Abbey (Douglas 1932: 80, Landon 1930: 174-9; Appendix 12.0). It is probable that Maurice of Windsor had built Lidgate castle before Stephen came to the throne. However, the stewardship passed to his nephew Ralph de Hastings at some point c.1139-1155 (Redstone 1915: 207-8).

From this evidence we must conclude that St Edmund's Abbey played an important strategic and logistical role, as a royalist base, in Stephen's long and bitter campaign against Hugh Bigod. The evidence of the issue of three coin dies to the Abbot's mint would imply that it was a period of high coinage production at the mint and could suggest that it was this logistical function, as a royal pay-master, that made the town important to Stephen (Douglas 1932: 88-9).

Within the Liberty of St Edmund all the castles evidenced were raised before or during the civil wars of King Stephen's reign. These included Clare, Desning, Freckenham, Great Ashfield, Great Fakenham, Groton, Lidgate, Lindsey, Milden, Nayland and the Red Castle at Thetford (Appendices 1.5; 7; 11-14; 18-21 & 25).

Bury's loyalty to Stephen was absolute; no charters in favour of St Edmund's issued by the Empress Matilda have been identified. To both reward and ensure the continuing loyalty of the abbey, Stephen granted important economic privileges to the Abbot such as freeing him from all tolls (Douglas 1932: 80-1) and issuing a quit-claim to the Burgesses of Bury freeing them of all tax obligations apart from those they owed the Abbot (Cronne and Davis 1968: 279). It is argued here that these privileges must be seen in the context of political rewards granted by King Stephen to ensure the continuing active assistance of the Abbey and town of Bury St Edmunds during the civil-war.

4.19.5: Henry II (1154 to 1189)

Henry II confirmed St Edmund's rights and issued a total of twenty-four surviving charters in favour of St Edmund's (Douglas 1932: 92-106). He visited Bury on at least two occasions, holding his Whitsun court at St Edmund's c.1157 (Arnold 1890: 259) and c.1188, when Henry and Eleanor of Aquitaine gifted the abbey a gold chalice (Greenway and Sayers 1998: 42). Later, the Abbey played a key role in the rallying-point of royalist forces against the invasion

and French-inspired coup attempt organised by the Earl of Leicester, aided by a Flemish mercenary army and defeated at the Battle of Fornham St Genevieve on the 17th October 1173 by a royalist army led by the Knights of St Edmund (Johnston 1981: 71-81; Greenway and Sayers 1998: 3).

4.19.6: Richard I (1189 to 1199)

Abbot Samson played a central role in raising the ransom and securing Richard I's release from captivity. Following his release Richard visited Bury and gave gifts to the shrine (Arnold 1892: xxxvii, 7, 132ff; Greenway and Sayers 1998: 49 & 69). However, Richard and Samson's friendship was not without its disputes; for example; Samson felt compelled to rigorously protect the Abbot's right to appoint wards over minors against Richard's attempt to give a wardship of St Edmund's to a favoured courtier (Arnold 1890: xlix, 287, 299).

In summary, St Edmund's Abbey generally enjoyed a close and mutually profitable relationship with the crown, despite the occasional dispute and a shift from supporting the crown to the Pope between 1066 and 1200.

4.20: The Liberty of St Edmund post-Conquest

In a subsistence farming economy such as that of the 11th- and 12th- century Suffolk, land is the singular measure of wealth and power. Despite its fame as a pilgrim centre the *demesne* lands of St Edmund's were the main source of income for the abbey (Rumble 1986: 14,1-167.). Its Domesday holdings were located in seven counties. However, the Abbey of St Edmund had 90% of its land concentrated in Norfolk and Suffolk and, unlike other East Anglian monastic houses, 75% of its lands were located in its immediate vicinity. This placed it within the medieval administrative district of the Liberty of St Edmund, where the Abbot was royal viceroy. Cownie (1998: 69) has calculated that, excluding those lands acquired after 1066, the value of the abbey estate rose from £438 to £567 per annum between 1066 and 1086. In addition, the Abbey land in Suffolk increased in value by 31% and in Norfolk by 35% between 1066 and 1086. By Domesday thirty-nine villis in Suffolk were exclusively the property of St Edmund's Abbey, of which thirty-two were concentrated within the Liberty (Map 4.3; Appendix 14.0).

The contiguous block of territory of the Liberty of St Edmund offered major advantages in terms of efficient estate management and scale of production, efficient storage and distribution infrastructure and the development of specialist industries. The Abbey had a ready market for

any surplus beyond its requirements, which could be sold to pilgrims visiting the shrine, at one of the Abbot's weekly markets or to merchants who attending one of the great fairs on St Botwulf (17th June), St James (25th July) or St Edmund (20th November) days (Douglas 1932: 62, 73-4; Lobel 1935: 10-11, 119-20; Johnson and Cronne 1956: 229-8).

4.21: Bury St Edmunds

St Edmund's *burh* was the fifth most important town in England at Domesday in 1086 (Lobel 1935: 15). According to the Domesday Book the town of St Edmund expanded westward between 1066 and 1086 to make room for the new abbey complex. This was newly laid out in 1086 and constructed on a grid plan (Figures 29-30). This doubled the town's value from £10 to £20 per annum by 1086. It boasted a large population including thirty clergy, twenty-eight nuns, seventy-five poor people who prayed daily at the shrine, a garrison of thirty-four soldiers and thirteen reeves, as well as bakers, brewers, tailors, washerwomen, shoemakers, robe-makers, cooks, porters and bursars (Rumble 1986: 14,167.). There is evidence of French, Jewish, Flemish and London merchants doing regular business within the town between 1066 and 1200 (Lobel 1935: 9 & 50; Statham 1998: 104). From the 12th century onward Bury evidences an important regional metalworking industry (Campbell 1998: 69-80). The diversity of employment and its specialist industries in a region dominated by subsistence farming emphasises Bury's wealth and importance.

The first evidence of knights, burghers and sokemen being required to maintain the town's defensive ditch is a charter of c.1121-1138 from Abbot Anselm (Douglas 1932: 114-5). The four sergeants responsible for the town's four gates are not recorded until Samson's abbacy c.1182-1211 (Arnold 1890: xlv). Documentary evidence and archaeological excavation suggest that these defences were originally a ditch and bank or *fossa*, probably with a timber palisade, but later replaced with an ashlar-faced wall (West 1974a: 17-24). During the civil war King Stephen gave permission for the knights of St Edmund's Abbey to perform their military service at Bury St Edmunds rather than at Norwich castle (Douglas 1932: 83-4; Figure 7). Evidence from Abbot Samson's time informs us that the manors of Thurston, Hessel, Beyton, Drinkstone, Rougham, Stanton and Pakenham, sent their sokemen to perform guard-duty at Bury. However, guard service was shortly after that commuted to wardpenny payments, which suggests the introduction of a waged garrison for the borough (Davis 1954: xxxv-vi).

4.22: The agency of Abbot Baldwin

Abbot Baldwin (1065-97) is a remarkable figure in post-Conquest East Anglia (Gransden 1981: 65-76). A complete analysis of the agency of Baldwin is beyond the remit of this thesis but between 1065 and 1097 he steered the community of St Edmund through the trauma of Conquest and secured the pre-eminent position of his Abbey. This was achieved by:

- a. Rebuilding the town of Bury St Edmunds on a grid pattern with 342 new houses thereby doubling the town's value by Domesday (Rumble 1986: 14,167.) and introducing the first written Borough customs (Gransden 1981: 68-9).
- b. Preventing two different bishops of Norwich gaining episcopal control over the abbey in 1070 and 1097 (Gransden 1981: 69-71, Abou-El-Haj 1983: 2-5).
- c. Visiting Rome to successfully lobby the Pope c.1071, when he received a mitre and ring as symbols of the Abbot's status and autonomy from episcopal authority (Arnold 1890: xxxii, 61, 68, 137 & 345). He also took the opportunity of establishing a chapel dedicated to Saint Edmund at Lucca cathedral c.1071, which remained a focus of St Edmund's cult into the 12th century (Arnold 1890: 137, Gransden 1995a: 75ff).
- d. Securing from Cardinal John Minuto a ten-day indulgence c.1070 for any pilgrim visiting the shrine of St Edmund, this is one of the first recorded examples of such indulgences in Europe (Douglas 1932: xlv-xlv, Abou-El-Haj 1983:3).
- e. Establishing forty new feudal tenancies on the abbey's estates to actively assist crown-forces in military campaigns (Douglas 1932: lxxxii-cxvi, Gransden 1981: 68).
- f. Lobbying William I for the return of abbey property seized by the new Norman elite (Douglas 1932: 56-7, Gransden 1981: 67).
- g. Undertaking his own detailed administrative survey, probably in conjunction with the Domesday survey, now known as Baldwin's Feudal Book c.1098 (Douglas 1932: 3-44).
- h. Conceiving the new abbey church and personally overseeing the translation of the martyr to his new shrine c.1095. He also built a church dedicated to St Denis, allowed Albold the priest to build another dedicated to St Margaret and secured the burial of

Alan Count of Brittany (d. c.1093) within the new abbey church (Arnold 1890: 350; Whittingham 1971: 5; Gem and Keen 1984: 1-2; Keats-Rohan 1999: 127-130).

- i. Commissioning a new hagiography of St Edmund, known as Herman the Archdeacon's *Liber de miraculis sancti Edmundi* c.1094-7 (Arnold 1890: 26-92; Gransden 1995b: 1-52), as part of the commemorations of the translation of St Edmund to the new shrine, though Baldwin died before its completion in the winter 1097/8 and was buried in the choir of his new abbey church.

Herman's new hagiography appears to complement Abbo's version of St Edmund's life in that it gives additional information without duplicating Abbo's miracle stories (Gransden 1995b: 24-26). Herman's version was later extended and rewritten (c.1125) as the 'Lives' and 'Office' of St Edmund in order to incorporate the hagiography into the liturgical life of the abbey (Thompson 1980: 119-120). This included additional miracles, recorded subsequently at the shrine, and used to encouraged the transmission and propagation of the cultic myth to the largely illiterate pilgrims visiting the shrine by incorporating it into the abbey's liturgy (Abou-El-Hadj 1983:15, Cownie 1998: 72-3). By the 12th century liturgical dramas were performed for the edification of visiting pilgrims to the shrine (Parker-McLachlan 1980: 255-261) and a large illustrated tableau of the life of St Edmund was erected in the new abbey church (Arnold 1890: 83-4; Parker-McLachlan 1986: 269-272). Furthermore, holy objects associated with St Edmund, such as his shirt, a sinew preserved in a box, the parings of his nails and his sword (Matten 1996: 32), were regularly displayed to enthusiastic audiences of pilgrims as part of the dramatic climax of their pilgrimage (Arnold 1890: 173-4).

4.24: Post-Conquest miracles attributed to St Edmund

St Augustine of Hippo (c.354-430), held that saints could intercede before God, on behalf of a fellow Christian who had especially petitioned a particular saint for their assistance (Brown: 60-63).

By the 12th century St Edmund was perceived as an especially active and effective agent curing diseases and healing (Arnold 1890: 41, 43, 49, 54, 68, 74, 75, 77, 80, 83, 89, 109, 160, 164, 179, 180, 181, 187, 188, 189, 197, 199, 202, 207, 208, 370, 371, 372, 373, 374), rescuing those in peril of ship wreck (Arnold 1890: 72, 92, 192, 195; 1896: 362) and providing fair winds (Arnold 1890: 176 & 178). St Edmund also specialised in protecting property (Arnold 1890: 69, 73, 185, 186; 1892: 339; 1896: 223-8, 362, 364), could multiply coins (Arnold 1890: 370), convert the godless (Arnold 1890: 204), release prisoners-of-war (Arnold 1890: 374ff.) and possessed

an ability to summon forth springs (Arnold 1890: 178 & 180). However, the argument will now be put forward that a particular aspect of the hagiographic tradition was deliberately emphasised as part of his cultic myth during the course of the late-11th and 12th centuries: the notion of St Edmund as an avenging saint.

4.25: Establishing St Edmund's reputation for violence

Abbo of Fleury's *Passio Sancti Eadmundi Regis et Martyris* c.990 (Arnold 1890:3-25) is the earliest narrative account of St Edmund's hagiography. This gives us the first two examples of St Edmund's capacity for righteous revenge: the capture and punishment of the thieves stealing from his shrine and the insanity of the impious young thegn Leofstan mentioned earlier (Arnold 1890: 20-23).

This vengeful *topos* of St Edmund was further developed in Herman's *Liber de miraculis sancti Edmundi* (Arnold 1890: 29-92) c.1094, here the idea that St Edmund was the harbinger of supernatural revenge became more explicitly propagated by the community of St Edmund.

As Barbara Abou-Al-Haj (1983: 2) has remarked;

'The idea that the saint's wrath could be called down upon a convent's enemies is documented widely in Europe throughout the period, when it was acted out in magical ceremonies using the bodies of saints' and implied 'something quite real, the capacity of the abbey to muster human allies against the challenges to its prerogatives and privileges'.

She has further suggested that the development of such a element in the hagiographic tradition was for sound political reasons and that a righteous fear of St Edmund was deliberately encouraged by St Edmund's Abbey, to protect the community's worldly assets from secular interlopers (Abou-El-Haj 1983: 6).

As noted above, Abbo of Fleury's 10th-century *Passio* has only two short stories attached to the end of the work concerning the avenging nature of St Edmund. By contrast Abou-El-Haj (1982: 2) has noted that Herman's *De miraculis* emphasizes St Edmund's supernatural belligerence compared with Abbo's *Passio* and a list of St Edmund's victims is suitably impressive:

1. The sheriff Leofstan who was punished with madness for violating the sanctuary of St Edmund's tomb (Arnold 1890: 3-25).
2. King Svein Forkbeard, who threatened the shrine in c.1014. His death was swiftly attributed to St Edmund by English sources in the late 11th and early 12th century at

Bury and Durham (Arnold 1890: 32-39, 47 & 361). It should be noted that this claim was dismissed by Snorri Sturulson in the 13th century, who claimed that this was another saint's story that had been confused with that of St Edmund (Hollander 1964: 126-127).

3. *Eadbriht*, the Essex priest, who refused help to those seeking refuge with Edmund's body on a bier (Arnold 1890: 40-41) and whose property was destroyed by divine arson.
4. The Dane in London who scorned the story of St Edmund and was blinded until he repented (Arnold 1890: 44).
5. The impious Abbot Leofstan, who tested whether St Edmund's head really was attached to his body by giving it a tug and was punished with gout in the offending hand (Arnold 1890: 54).
6. Osgod Clapa who arrogantly wore his sword in St Edmund's church and was struck mad until he repented and was cured at the shrine (Arnold 1890: 54-56).
7. Turolf the steward and Gyreneu de Mouneyn, a knight, who were struck with a frenzy when they invaded the abbey's manor at Southwold at the behest of Robert de Courson, a baron of Roger Bigod (Arnold 1890: 79-80; Keats-Rohan 1999: 375).

By the 12th century new revenge stories about St Edmund were incorporated into the hagiographic tradition. For example, one of the most prestigious of St Edmund's victims was Eustace, King Stephen's son and heir. Eustace died in 1153 after attacking the lands of St Edmund's Abbey (Howlett 1889: 176, Stubbs 1879: 155, Arnold 1890: 357-8, Potter and Davis 1976: 238). Thomas Callahan has argued that the death of Eustace was suspiciously timely (1976: 113-116), as it immediately brought to an end to the civil war in England. He notes that Eustace had seized supplies and foodstuffs from the abbey and that he died immediately after a meal at Cambridge castle, which strongly suggested to Callahan that Eustace had been conveniently poisoned.

What is important is that political assassinations in the 10th to 12th centuries, such as those of Svein Forkbeard or Eustace, *could* be explained away as acts of divine retribution. St Edmund's agency was generally accepted as a rational and legitimate explanation for these deaths. Moreover, the Abbey both willingly and actively participated in promoting this explanation insuring that the credit for them accrued to St Edmund.

St Edmund's casualty list continued to grow and included those who were neither kings nor victims of political assassinations, for example the Fleming who c.1173 drowned following an attempt to steal a peacock from abbey property (Arnold 1890: 365-366). Nor were St Edmund's victims just Normans, Flemings or other 'foreigners'; as the story of the blinding and subsequent cure at the shrine of a young local boy who had used profane and abusive language about St Edmund show (Arnold 1890: 145-6). The purpose of such a *topos* was to emphasis to an audience of pilgrims that St Edmund's vengeful disposition was not exclusively the concern of the nobility, but extended to all members of society who dared offend St Edmund or his abbey's autonomy, rights or jurisdiction.

The rebellious Earl of Leicester and his Flemish mercenaries were added to the myth following the battle of Fornham St Genevieve c.1173 (Arnold 1890: lvi-lix & 364-5). This was the only battle recorded in Suffolk during the late 11th and 12th centuries (Johnston 1981: 59-81). The royalist forces at Fornham included the Knights of St Edmund, who were led by Roger Bigod bearing the *Agnus Dei* banner of St Edmund (Arnold 1890: 262 & 270, Johnston 1981: 172 n.100).

So successful was St Edmund's community in promoting the vengeful aspect of his cult that when the royal exchequer was faced with raising the enormous ransom for the release of King Richard c.1192-1194, someone (probably William de Longchamps, bishop of Ely and Chancellor) suggested that by despoiling St Edmund's tomb the money might be quickly raised. Jocelin of Brakelond reports the incident as follows:

'whether St Edmund's shrine should be partly stripped for the king's ransom was argued before the Barons of the Exchequer, and the abbot stood up and answered the point in this way: "Take it for a certainty, that this shall never be authorized by me, nor is there any man who would get me to agree to it. But I will open the doors of the church - let anyone enter who will, let anyone come near who dare." Each judge replied with an oath, "I shall not go", "Nor I. St Edmund vents his rage on the distant and the absent: much greater will his fury be on those close at hand who seek to rob him of his clothing." Because of what was said, the shrine was not despoiled, nor was there a loan raised on it' (Greenway and Sawyer 1998: 86).

At the beginning of the 13th century the myth of St Edmund and his vengeance had reached such a level of public consciousness that even royal officials, such as St Edmund's arch-rival the Bishop of Ely, balked at incurring the saint's displeasure. In the succeeding centuries St Edmund's revenge *topos* continued to evolve. For example, during the capture of Damietta in Egypt in 1219 the two mosques in the captured town were converted into churches. One church was dedicated by the crusaders to St Edward the Confessor and the other to Saint Edmund. In the latter a *tableau* or illustrated life of St Edmund was erected in order to instruct visitors about

the life of the saint. A visiting Fleming mocked the life of St Edmund only to be divinely punished for his impiety, much impressing the local Muslim population (Arnold 1890: 376-7, Stubbs 1880: 242-243). Therefore, by the 13th century St Edmund's revenge had expanded to include an intercontinental strike capacity.

It is argued here that the enhanced version of the hagiography of St Edmund was a response to real threats to his shrine and abbey. In producing, promoting and extending this hagiographic tradition, the community of St Edmund both asserted and justified its claims to independence and the abbey's jurisdiction and rights. It also publicly warned anyone who wished to challenge St Edmund's rights or independence that the community at Bury was under the special protection of a psychotically violent saint. In short, the hagiography of St Edmund evolved from the late 11th century, at the agency of his Abbey, in order to meet contemporary threats.

The fact that the monastery felt that it needed to establish such a reputation for divine defence, would suggest that it was a community in fear between 1066 and 1200. If a royal monastic community, which was also one of the largest landowners in the region, felt so intimidated despite its own military forces, how much more fearful must the secular barons have been who did not have this special relationship with St Edmund and who sought to secure their autonomy, rights and jurisdiction by means of castles?

4.26: Establishing the authority of St Edmund's Abbey in the 11th and 12th centuries and how that affected castle building in Suffolk.

Having concentrated on the pervasive influence of the metaphysical narrative of the life and hagiography of St Edmund, it is now necessary to examine the hard political reality and how this relates to the castles constructed within the Liberty. It has been noted that the Liberty controlled over 40% of Suffolk, including strategic access into East Anglia, and that the Abbot acted as a viceroy within it.

4.27: Sources of the Abbot's authority

The political power wielded by the Abbot of St Edmund's came from four sources:

1. The role of Abbot, which according to the rule of St Benedict, included absolute power within his own abbey and over all its property.

2. The Pope's patronage of St Edmund's Abbey, making the abbey autonomous of all other ecclesiastical authorities in England by 1200.

3. The status of viceroy within the area of the Liberty of St Edmund, which is especially relevant to the licensing of castles.

4. The Abbot's personal holding of the feudal baronage of St Edmund.

4.28: Points of conflict: jurisdiction, rights and privileges.

Redstone notes that Edward the Confessor warned Baldwin that the granting of the eight and a half hundreds would involve the abbey in continual disputes both with the officers of the crown and with the lords within the Liberty of St Edmund (1915: 203).

However, the most frequent and lengthiest conflicts occurred between St Edmund's Abbey and other regional ecclesiastical rivals. These appear to have commonly focussed on matters of jurisdiction. For example, c.1132-42 the Bishop of Norwich clashed with the Abbot of St Edmund's over the church at Caister St Edmund in Norfolk (Douglas 1932: 81-82). In such disputes, it must be noted that St Edmund's Abbey did not always win; one victory secured by the Bishop of Norwich over the abbey concerned the Bishop's right to oversee the cure of all souls in all parish churches in the diocese, granted by Pope Adrian IV c.1155 (Harper-Bill 1996: 286-7).

This rivalry often focussed on rights and privileges concerning control of trade or specific economic resources. For example, the establishment by the monks of Ely of a market in 1201 at Lakenheath, despite being backed by a royal charter, was aggressively suppressed by six hundred well-armed townsmen, led by the Abbey's bailiffs on the orders of Abbot Samson (Greenway and Sayers 1998: 117-119). On another occasion the Bishop of Ely was, by Abbot Samson quick-wittedness, tricked out of over a hundred valuable oak trees at Glemsford that the bishop's carpenters had earmarked for a new building (Greenway and Sayers 1998:63-4).

4.29: Benedictine rivalry with other orders in Suffolk

Before 1066 there were two or three Benedictine communities in Suffolk (Map 4.4). Bury St Edmunds appears to have had a late Anglo-Saxon Priory and associated communities of nuns by 1086. Another was St Michael's Priory Rumburgh, which had apparently been attached to the pre-Conquest episcopal seat at South Elmham in Bishop's Hundred. There has also been a long

antiquarian tradition that St George's Priory in Thetford was a cell of Bury, founded by Cnut *c.*1030 in memory of the dead from the battle of Ringmere *c.*1010, that later became a Benedictine nunnery (Dugdale 1846 4: 475-480). Pestell has recently dismissed this due to a lack of historical evidence for a priory before the 12th-century nunnery.⁷ However, the more important point is that the number of religious houses in Suffolk increased by thirty-four between 1066 and 1200 (Map 4.5, Table 4.1). Moreover, Pestell identifies the reigns of King Stephen and Henry II, from 1135 until 1189, as the period when the largest number of new religious communities were established in the county (Pestell 2004: 124-6, 125-7, 164, 209-10).

1. Of the thirty-seven religious communities, the largest number of belonged to the Benedictine order, with fourteen priories and four nunneries evidenced between 1066 and 1200. This was the only order present at Domesday, when it possessed eighteen, or 49%, of all existing religious communities in Suffolk.
2. Of the fourteen Benedictine priories, only two existed before 1086, four were cells of alien houses, four were cells of other English Benedictine priories and two were cells of Suffolk-based Benedictine priories. This meant that only two Suffolk Benedictine communities at Bury St Edmunds and Eye were based in the county. St Peter's Priory at Eye was founded *c.*1086-7 by Robert I Malet and was also the location of the only Suffolk castle recorded at Domesday (Rumble 1986: 18, 1.; Brown 1992; 1994).
3. The second largest number of religious communities founded in Suffolk between 1066 and 1200 was that of the Augustinians, who possessed eleven, or 30%, of all religious communities found in Suffolk during this period. This number is all the more remarkable because the first Augustinian priory was St Leonard's at Great Bricett, founded by Ralph fitzBrian only in *c.*1120 (Cox 1907: 94-5; Keats-Rohan 2002: 874).
4. Of the eleven Augustinian communities, the one at Letheringham was a cell of St Peter and Paul's Augustinian priory at Ipswich. Therefore, the Augustinian order created ten independent priories in Suffolk between *c.*1120 and 1200.
5. Of the remaining nine religious communities founded in Suffolk between 1066 and 1200, five were priories, of which three, or 8%, were Cluniac, two were preceptories of military orders and two post-Conquest colleges of priests.

⁷ Only archaeological excavation of St George's will definitively answer this question.

6. The distribution of religious communities founded in Suffolk between 1066 and 1200 is not even across the Liberties of the Saints and the geldable area of the county. Nineteen of them occur in geldable Suffolk, seven occur in St Æthelfryth's and ten in St Edmund's Liberties. Moreover, of the ten found in the Liberty of St Edmund, three were sub-houses or cells of St Edmund's Abbey and of which two were located in Thetford. Therefore, apart from those in Thetford and Bury St Edmunds, only four new religious communities were founded within the Liberty of St Edmund between 1066 and 1200, compared with the seven in St Æthelfryth's Liberty evidenced during the same period. In addition, only two rival orders were in evidence in St Edmund's Liberty, namely St Mary's Cluniac priory, which relocated across the river to Thetford in Norfolk c.1114-29, and St Mary's Augustinian priory at Ixworth, which was allegedly founded c.1100-20, destroyed in the civil wars of King Stephen's reign c.1135-53 and then re-founded c.1170. It is argued here that this distribution demonstrates that the Abbey of St Edmund's restricted new religious orders or religious communities from establishing themselves within the Liberty of St Edmund (Northeast 1999b: 70-1 & 201).
7. Twelve of the religious houses were dedicated to the Virgin Mary including seven of the Augustinian foundations, suggesting that Marian devotion was especially associated with the Augustinian order.
8. Nine of the thirty-seven religious communities evidenced in Suffolk between 1066 and 1200 were constructed by new Anglo-Norman feudal dynasties who built castles in the county. However, only five new religious communities were established contemporaneous with their agent's castles. Of these, three are Benedictine priories, at Clare, Eye and Walton, and two are Augustinian, at Thetford and Ipswich. Therefore, there is not a high correlation of religious communities being in the immediate landscape of rural Suffolk castles or broadly contemporaneous with their construction, although there is a tendency for the earliest established urban castles in Suffolk to be contemporary with the foundation of religious communities in those towns between 1066 and 1200.

4.30: The Knights of St Edmund

The introduction of Continental feudalism imposed a new military system on the abbots and bishops of England. The abbot of St Edmund's Abbey was responsible for providing a military force of forty knights to the king before 1086, 'that they go when need be in the service of the

saint' (Douglas 1932: lxxxix; Douglas and Greenway 1981: 976-7). These Knights of St Edmund were an important organisation in Suffolk between 1066 and 1200, because they were:

- The largest military organisation based in west Suffolk through out this period.
- An association of local barons, *bannerets* and knights, bound by a personal oath of fealty to the Abbot of St Edmund.
- An institution by which the Abbot of St Edmund could exercise political influence over the nobility.
- Its members were responsible for building ten castles in Suffolk between 1066 and 1200.

Prior to 1066 the Abbot of St Edmund had a military force at his disposal; a man-at-arms of St Edmund called Wulfwy held Ingham as a manor before 1066 (Rumble 1986: 14,69.), and in 1086 34 men-at-arms 'English and French' were garrisoning Bury (Rumble 1986: 14,167.). These Douglas (1932: cvi) believed represented 'a distinct household retinue of a great religious house' and makes the comparison with the Abbot of Glastonbury's French men-at-arms c.1083.

Britnell (1992: 34) has noted that military tenures were based on personal contracts based on oaths of fealty and homage rather than on a commercial contract, and that they were created to support members of lord's dynasty or to forge alliances with other dynasties.

The *feudati homines* of St Edmund had entered into a hierarchical and personal feudal relationship with the Abbot, by which they received land in return for providing knights to meet St Edmund's Abbey military obligation, the *servitium debitum*, to the king. The peacetime duty of the Knights of St Edmund's, was garrisoning the region's principal royal castle at Norwich on a three-month rota basis. However, these *feudati homines* only represented a tiny fraction of the abbey's tenants (Douglas 1932: lxxxv, c, 83-4). Their role was a functional one, unlike other tenants of the abbey, in that they were capable of performing, or provided a substitute to perform, military service. Douglas (1932: c-cii) goes on to argue that, despite the evidence of the Anglo-Saxon *wergeld*, social stratification was more fluid and that even issues of hereditary were not legally guaranteed in the 11th century and which led Douglas (1932: cv) to conclude that:

‘The *feudati homines* as we see them on the Bury land in the first age of the Norman settlement cannot be regarded yet as an hereditary noble class’.

The Knights were organised into four units, each under a constable (Douglas 1932: lxxxvi), and documentary evidence suggests that they saw active service at the battle of Fornham St Genevieve c.1173 (Arnold 1890: lvi-lix; Johnston 1981: 71-81; Greenway and Sayers 1998: 3 & 49) at the siege of Windsor c.1193 (Greenway and Sawyer 1998: 49) and it is implied that they also saw active service during the civil wars of Stephen’s reign (1139-1153) (Douglas 1932: 83-4).

Alongside their military role, the knights performed an important judicial function, providing juries in certain legal cases judged before the abbot. Attending upon the abbot at various official ceremonial events, for example; the election of the two town reeves of Bury (Lobel 1936: 61). Furthermore, they acted as advisors, witnessed charters, served as abbey officials and generally behaved as the military tenants of any great feudal magnet (Douglas 1932: cxlix).

The election of a new abbot required the knights, burgesses and freemen of the Liberty to be summoned to St Edmund’s to swear homage to their new feudal lord (Lobel 1936: 85). This bound the knights into a strict and personal feudal relationship with the abbot. Therefore, the Knights of St Edmund unified a number of powerful potential rival dynasties into a single west Suffolk institution and provide the abbot with an important means of social control over them.

4.31: Sources of evidence for the Knights of St Edmund

The Knights of St Edmund between 1066 and 1200 are evidenced by three complete membership lists:

- Abbot Baldwin’s Feudal Book c.1098 (Douglas 1932: 14-24)
- The *Cartae Baronum* 1166 (Douglas and Greenaway 1981: 976-7)
- Jocelin of Brakelond c.1200 (Greenway and Sayers 1998: 106-8)

It is further possible to take the locations of the fees listed by Jocelyn of Brakelond c.1200 and identify those who held the same fee at Domesday to provide a fourth partial data set of St Edmund’s Knights 1086 (Appendix 13.0, Table 4.2).

Each list is a data set of the Knights of St Edmund in 1086, c.1098, 1166 and c.1200. Each data set is expressed by different types of information. The Little Domesday 1086 data is partial but

gives the most detailed breakdown of the knights' fees, including size, population and value. The Feudal Book contains the most accurate breakdown of the land and population that each knight held for his fee c.1098. The *Cartae Baronum* only list the number of knights' fees that existed in 1135 and who was holding that fee in 1166. Finally, Jocelyn provides a list of knights that tells us how many fees were held, by whom and where that fee was located c.1200.

With these four data sets it is possible to undertake two pieces of analysis:

1. To specifically examine the earliest Knights of St Edmund by comparing the data sets of 1086 and c.1098 (Table 4.2). This will allow us to:
 - a. Identify the original membership of this institution,
 - b. Compare membership and change over a twelve year period 1086 to c. 1098,
 - c. Examine the knights' fees in terms of acreage, population and value.
2. To examine how the Knights of St Edmund's membership changed between 1086 and c.1200 (Table 4.3). This will allow us to identify the continuity or discontinuity of membership and help us identify which members of the Knights of St Edmund built castles in Suffolk.

4.32: The membership of the Knights of St Edmund between 1086 and 1098

A brief examination of the membership of the Knights of St Edmund between 1086 and c.1098 reveals that they were not socially homogeneous but included abbey officials, local barons, *bannerets*, knights and even clergymen. From the Domesday Book and the Feudal Book certain groups and individuals can be identified, including Abbot Baldwin's brother Frodo, three sheriffs, two Bretons and other officials of Earl Ralph's who had not joined his rebellion, knights who substituted for other important local noble families, clergymen and those who held very small knights fees from St Edmund.

4.32.1: Frodo, Abbot Baldwin's brother

Frodo, also held property as a tenant-in-chief in Suffolk (Rumble 1986: 12,1-7., Keats-Rohan 1999: 200). He was clearly the wealthiest Knight of St Edmund, holding property from the Abbey worth £35 4s 0d at Santon Downham, Somerton, Great Livermere, Tostock, Troston and

Mendham, in Suffolk (Rumble 1986: 14,21;28;33;65;86;106.), and at Loddon with an outlier at Hales in Norfolk c.1086 (Brown 1984: 14,35; 42.).

4.32.2: The Sheriffs

At Domesday c.1086 three sheriffs held fees associated with the Knights of St Edmund, each of whom shortly after that gained baronial status, namely Roger Bigod, the Sheriff of East Anglia 1072-1075, 1086 and 1101-1107 (Green 1990: 76-7; Keats-Rohan 1999: 396-8), Robert Blundus, the Sheriff of Norfolk before 1086 (Green 1990: 60; Keats-Rohan 1999: 370), and Peter Valognes, the Sheriff of Essex before 1086 and under William Rufus (Green 1990: 39; Keats-Rohan 1999: 322). All three were important East Anglian tenants-in-chief at Domesday, but each held modest fees from St Edmund: Roger Bigod held property in Bressingham, Buckenham, Starston in Norfolk and Waldringfield in Suffolk worth £5 1s 0d (Brown 1984: 14,14; 14,21; 14,25; Rumble 1986: 14,117.). Robert Blundus held property in Ixworth, Ixworth (Thorpe), Walsham Le Willows and Wyverstone worth £4 3s 4d (Rumble 1986: 14,92;100-101;123.). Peter Valognes held property in Hepworth, Barningham, Great Fakenham, Little Fakenham, Honnington, Sapiston, Bardwell worth an estimated £5 (Rumble 1986: 14,78;81-83;85;96-97.).

4.32.3: The Bretons and officials

Two Bretons are listed in the Feudal Book c.1098, namely Fulcher the Breton, also known as Fulcher of Mesnières (Keats-Rohan 1999: 200), and Hubert the Breton, whose brother Reginald held his fee c.1098. These Bretons may be associated with the community of Bretons around Earl Ralph Guader (Williams 1995: 63). Another significant regional figure before Domesday was Radfrid, who appears to have been an official in Norfolk who had held property in Banham, Smethdon, Middleton and Bircham but forfeited them before 1086 (Brown 1984: 15,11; 16,5; 19,2; 6 & 9). Radfrid may have been later enfeoffed by St Edmund's Abbey with the valuable manor of Kirby Cane, Norfolk (Douglas 1932: 3-21, 212 & 215; Keats-Rohan 1999: 327).

4.32.4: Those knights who held fees from St Edmund by sub-infeudation to other local noble families

Two Knights of St Edmund's, Anselm of Thrandeston (Keats-Rohan 1999: 154) and Jocelyn Lorimer (Keats-Rohan 1999: 234), held from Frodo. Jocelyn also held from Robert Malet (Rumble 1986: 6,19.). William son of Gross (Keats-Rohan 1999: 486) held Benton Hall in Essex from St Edmund but had originally held land from Robert Malet at Ferfield in Norfolk (Brown 1984: 66,61). At Domesday he was also holding Dagworth in Suffolk (Rumble 1986: 31,50.) and Kelvedon in Essex (Rumble 1983: 27, 2.) from Hugh de Montfort. Berard held from

both Robert son of Corbucion (Rumble 1986: 40,5.; Keats-Rohan 1999: 163) and Roger Bigod. Fulcher of Mesnières also held from William of Warenne (Brown 1984: 8,59. 9,219.) and Odard held Foulton from Swein of Essex (Rumble 1983: 24,65.). This suggests that the institution of the Knights of St Edmund formed either a direct link between the abbot and local baronial families or an indirect one where a trusted knight, associated with a particular secular baronial family, acquired a knight's fee from St Edmund's Abbey as an alternative to personal membership by the head of a particular baronial family.

4.32.5: *The clergymen*

Five clergymen were holding fees as Knights of St Edmund 1086 and three in c.1098. Holy orders forbade clergy from participating in warfare but, despite that, several knights' fees were held by clergy in 1086 and c.1098.

At Domesday the most valuable of the fees held by a clergyman was that of Durand (Keats-Rohan 1999: 181), the 'cleric of Saint Edmund and Abbot Baldwin' (Rumble 1986: 4,119; n.), possibly Abbot Baldwin's personal chaplain. Durand held a fee assessed at £7 10s 0d in Stowlangtoft and Kenton. However, according to the Feudal Book c.1098, Durand held a more modest fee of 80 acres in Chevington (Douglas 1932: 24). The other clergymen, namely Theobold, Robert (d. pre-1098), Albold (d. pre-1098) and Peter the Cleric, held fees of a *carucate* each in 1086.

These clergymen probably contributed towards the cost of paying for a knight to perform the military service for the fee, or employed a male relative, for example Walter, the nephew of Peter the cleric (Rumble 1986: 14,87; n.). However, there is later documentary evidence that some of these members of the clergy had sons, who inherited their father's fee, as in the case of William son of Albold (Douglas 1932: 111, 111-2, 116, 118-9, 120-1, 123-4). These clergy must have been significant members of the ecclesiastical community of Suffolk to own such property and the status of knighthood. It is suggested here their small properties might be the origins of the fractional fees of $\frac{1}{4}$ and $\frac{1}{3}$ evidenced in 1166 and 1200 (Table 4.3).

4.32.6: *Those that held very small fees from St Edmund's Abbey*

It is not possible to escape the difficulties inherent in understanding the very smallest knights' fees recorded in 1086 and 1098. However, three general points can be made here:

- a. Very small fees are evidenced from 1086 to 1200, for example; Norman of Risby's fee of 10s in 1086. The same fee is described as 60 acres in Risby with

4 smallholders and two slaves in 1098. By the late 12th century it is recorded as ½ a knight's fee. However, every recorded holder of the fee from 1086 to 1200 was called Norman.

- b. Some fees may originally relate to official functions performed on behalf of the abbey as a sergeant's rather than as a knight's fee, for example Otto the Goldsmith senior appears to have been involved in the operations of the abbey's mint (Keats-Rohan 1999: 320-1; Douglas 1932: cxxxix).
- c. The very smallest fees may be the origins of the ¼ and ⅓ fractional fees evidenced in 1166 and 1200.
- d. Most of those who lost knights fees between 1086 and 1098 held very small fees.

4.33: A comparison of membership over the period 1086-1098

There is a reduction from forty named individuals in 1086 to thirty-five named individuals holding the forty fees by c.1098. Eight names have disappeared and three new names are recorded in the Feudal Book of 1098, suggesting a turnover of personnel of 20% in the twelve-year period 1086-98 (Douglas 1932: 14-24). These were largely lost by those holding very small fees. No new clergymen's names are recorded and their number had been reduced from five to three.

If we compare the acreage of the knights' fees at Domesday in 1086 and the Feudal Book in 1098 (Table 4.4), the following changes can be identified:

- Fifteen knights' fees gain additional land from the abbey between 1086 and 1098.
- Fifteen knights' fees lose part of their fee by 1098.
- Two fees remain unchanged between 1086 and 1098.

This confirms Douglas's (1932: c-cii) suggestion that from the beginning the Knights of St Edmund did not possess a fixed structure but one that was constantly and subtly changing to reflect a shifting political landscape, the problems of producing a male heir and the availability of Abbey land with which to create new knights' fees. However, the rate of change was not uniform; it would appear to be a greater amongst those holding the smaller fees.

It is argued here that, despite alterations in the composition of the fees and membership, this rate of change was largely constant between 1086 and 1098, and continued throughout the period between 1086 and 1200. The holders of knights' fees from St Edmund demonstrate, at a lower level of the social hierarchy, precisely the same trajectory that Holt (1989: 47) identifies for baronial dynasties in England between 1066 and 1200:

'Some baronies enjoyed a relatively smooth passage from the Conquest to the reign of Henry II, descending directly in the male line, undisturbed by political disaster or fortunes of civil war, unaffected by the financial consequences of excessive enthusiasm for the Crusade, monastic endowment, lavish building, or the accumulation of estates. Some baronies had a more chequered history, broken by division among heiresses or the succession of collateral, or a dispute claim sometimes coinciding with civil war. Some escheated to the Crown, temporarily or permanently, because of default of heirs or the treason of the tenants'.

4.34: An examination of the knights' fees in terms of: acreage, population and value between 1086 and 1098

Abbot Baldwin's Feudal Book lists the Knights of St Edmund in 1098 (Douglas 1932: 15-24). These data can be tabulated for purposes of analysis and allow us to rank the fees in terms of acreage and population (Tables 4.5-7) for all the Knights of St Edmund c.1098. From the Domesday Book it is possible to identify or estimate a value for the knights' fees and to rank them for 1086 (Table 4.8.).

4.34.1: The acreage of fees 1086 and 1098

It is possible to rank the acreage of all the knights' fees in the Domesday Book 1086 and Feudal Book 1098 (Table 4.3). From these data we are able to demonstrate the changing amount of land associated with each fee in 1086 and 1098. This allows us to rank the knight's fees by acreage and compare changes in the amount of land held over a 12 year period.

It is then possible to demonstrate what amount of Abbey land was granted to each knight in 1086 and 1098 (Chart 4.1) and to compare that information (Chart 4.2). For instance Frodo held nearly 16% of all the land available to the Knights of St Edmund in 1086, but that had been reduced to 9% of the total available acreage c.1098. However, despite this reduction of Frodo's fee, in both 1086 and 1098, 88% of the total acreage available for fees was held by just nineteen knights. This figure demonstrates a hierarchical distribution of land amongst the fees, with certain knights holding more land than others. It also suggests a significant, possibly leadership, role for Frodo in 1086.

The knights' fees ranged from 2455.5 acres to 20 acres in 1086 and from 1389 acres to 30 acres c.1098. In total the Abbey sub-infeudated 15 570 acres from its *demesne* lands in 1086 and 15 279.5 acres in 1098 to the Knights of St Edmund. Of the 15 279.5 acres granted as fees in 1098 11 579 acres, or 75%, were located in Suffolk.

4.34.2: The population of fees c.1098

It is possible to rank the population data for those attached to each of the Knights of St Edmund's fees c.1098 (Table 4.4; Chart 4.3) and compare that information with the population profile of Suffolk in 1086 (Darby 1952: 379). However, in order to do this accurately we have to modify the population figures for the Knights of St Edmund's fees in two ways:

- In order to calculate the population accurately each $\frac{1}{2}$ freeman, sokeman or smallholder is assumed to be a single individual.
- It is necessary to exclude all those fees not in Suffolk from the calculation and to produce a modified version of the Feudal Book information (Table 4.4.).

Freemen, sokemen, villagers, smallholders and slaves are all found attached to knights' fees in Suffolk in 1098. However, there are important differences between the population profile of Suffolk in 1086 and the population profile of the knights' fees in 1098.

For example, the population of Suffolk in 1086 (Darby 1971: 379) consisted of 40.4% freemen, but c.1098 only 23% of the population of the knight's fees in Suffolk were freemen. In addition, sokemen are relatively rare in Suffolk 1086, when they formed only 4.5% of the county's population, but they form 16% of the population of fees of the Knights of St Edmund in Suffolk. Similarly villagers, at 20%, and Smallholders, at 38%, of the population of knights' fees in Suffolk, occur more frequently than the Suffolk population profile's figures of 16.4% and 33.8% respectively. Finally, the knights' fees of St Edmund had 1.7% fewer slaves than the county population profile of 4.7% would suggest.

This evidence would suggest that the social profile of those attached to the fees of the Knights of St Edmund in Suffolk deviated from the county population profile in 1086 by having proportionally fewer freemen and proportionally more villagers and sokemen. However, the freemen still accounted for 30% of the total population associated with the knights' fees in Suffolk, a high figure in its own right, and greater than Norfolk's population profile which gives the county a free population of 19.9%. Finally, the total population associated with all the fees

of the Knights of St Edmund is a modified population of 836, of which 580, or 69%, are found in Suffolk.

4.34.3: The value of fees in 1086

It is possible to tabulate the value of each Domesday holder of the knights' fees of St Edmund and to rank their value for 1086. However, these data are incomplete and require some estimation of the value based on the acreage. Those estimates are shown in Table 4.5 as a figure expressed in brackets and a '£' sign next to the acreage that they are estimated to represent, while the known figures from the Domesday Book are expressed without brackets and in shillings or pence. This allows us to produce a ranking of the value of each of the knights' fees in 1086 (Table 4.9) and to demonstrate their estimated values (Chart 4.4).

It should be noted that, while Frodo held a mere 16% of the acreage, it represented 23% of the total value of the land granted as knights' fees by St Edmund. This implies that Frodo not only held the largest amount of land as a Knight of St Edmund but that he also held the most valuable of the estates the Abbey of St Edmund's had granted to its Knights. The death of his brother Baldwin and the sub-infeudation of part of his holdings to others, like Jocelyn Lorimer, probably explain the decrease in Frodo's acreage and a corresponding drop in its value by 1098.

The total value of knights' fees of St Edmund at Domesday can be estimated at £162 10s 0d. Cownie has estimated that the Abbey's holdings were valued at £567 in 1086 (Cownie 1998: 69). Therefore, the Knights of St Edmund were costing the abbey more than 27% of its annual income in 1086. Finally, the value of these fees at Domesday can be used to compare their distribution; the fees in Suffolk were worth £129 4s 6d (83%), in Norfolk £27 15s 6d (14%) and in Essex £5 10s 0d (3%).

To summarise: 69% of the population, 83% of the value and 75% of the land granted by the Abbey of St Edmund's to its military tenants were in Suffolk in the 11th century.

4.35: An examination of changes in membership between 1086, 1166 and 1200

In 1086 forty named individuals held knights' fees from St Edmund for the service of a total of forty knights. In 1166 thirty-nine named individuals held 51¼ knights' fees. In 1200 thirty-eight named individuals held 52¾ knights' fees. The evidence indicates that this expansion of knights' fees from 40 to 51¼ occurred between 1098 and 1135 (Table 4.1). However, the only

documented new knight's fee created between 1135 and 1166 was a $\frac{1}{4}$ fee created for Humphrey of Barningham (Douglas and Greenaway 1981: 976). This would suggest that an additional $11\frac{1}{2}$ new fees were created by the Abbey of St Edmund by 1135, but that no clergy appear to be any longer enfeoffed with land associated with knight's fees according to the 1166 list of knights.

It should be noted that new *demesne* land granted to the abbey after 1086 was sometimes used to create additional knights' fees, for example at Lidgate, Norton, Reydon and Ashfield Parva in Suffolk, along with Chipley and Roding in Essex. However, c.1166-73 Henry II banned St Edmund's Abbey from making any new gifts from the abbey's *demesne* lands (Douglas 1932: 100). In part this was an attempt to force the Abbey to come to terms with its financial crisis and not to gift any more of its lands to its debtors. However, it is argued here that this also effectively prevented the creation of any new knights' fees for St Edmund after 1166.

Two new baronial families, that of de Vere and Pecche must have joined before 1166 (Sanders 1960: 52, 40, & 48), as neither the de Vere nor the Pecche families held any fees from St Edmund in 1086 or 1098. However, by 1166 Aubrey III de Vere answered for $5\frac{1}{2}$ fees and Hamio Pecche 2 fees (Keats-Rohan 2002: 235 & 1064). The *Cartae Baronum* identifies those holding 'old' fees existing pre-1135, 'new' fees created post-1135 and those who were holding the fees in 1166. We can compare these data with those from Jocelin's survey in 1200 (Greenaway and Sayer 1998: 106-8). It is possible to perceive that the de Vere and Pecche families were already closely associated with St Edmund's by 1135, but that the Clares only began holding fees from St Edmund's Abbey after 1135. Charter evidence would appear to suggest that this happened c.1151-54 (Douglas 1932: 91), although they are not recorded in the *Cartae Baronum* of 1166. It is argued that, as new baronial families came to local prominence in Suffolk between 1086 and 1200, they were recruited into the Knights of St Edmund, establishing a feudal relationship between the local elite and the abbey.

The evidence suggests that the number of individuals holding knights' fees from St Edmund was more or less a constant between 1086 and 1200 but that the number of knights' fees increased disproportionately. It is outside the scope of this thesis to examine the causes for this increase, but it certainly was not in the Abbey's interest to alienate more land than necessary. However, it is suggested here that inflation between 1066 and 1200 led to more fees being issued to offset the increasing costs of training and equipping a knight (Greenway and Sayer 1998: 58-61).

As observed above, between 1086 and 1098 new knights' fees were granted to new families or old families reasserted their independent claim to membership of the Knights of St Edmund, for example the de Charneles and de Presseni (Keats-Rohan 2002: 650), while other families, for example the Valognes, de Taidene and de Glanvilles, lost their fees between 1166 and 1200 (Keats-Rohan 2002: 757-60, 728 & 477-9). It would thus seem that the evolution of membership identified above during the period 1086 to 1098 continued from 1098 to 1200.

The evidence suggests that the structure of the fees changed between 1086 and 1200. For example, the 5½ knights' fees held by the de Vere's from St Edmund in 1166 and 1200 had been held in 1086 by Frodo, Berard, James and Coleman. Another Knight of St Edmund, Gilbert son of Ralph, held three knights' fees in 1166 and 1200, yet these same three fees had been held by six different individuals in 1086. The Cockfield family's fees also changed between 1135 and 1200 (Appendix 16.7).

Furthermore, the value of fees held also changed. In 1086 Roger I Bigod had held Buckenham, Starston, Bressingham in Norfolk and Waldringfield in Suffolk for a total of £5 1s 0d. By 1200 Earl Roger held Norton Subcourse and Bressingham in Norfolk, worth £1 6s 4d at Domesday and his son Robert held Marlesford in Suffolk, valued at £2 at Domesday (Brown 1984: 14,25;42.; Rumble 1986: 14,118.; Greenway and Sayers 1998: 106-8). This was probably the result of the Bigod family achieving baronial status in the early 12th century and the knights' fees becoming more honorific rather than a financial incentive (Sanders 1960: 46-7; Wareham 2005: 144).

Despite their social significance, the number of fees they held and their value, the baronage never held the majority of the knights' fees from the Abbey between 1086 and 1200 (Bloch and Manyon 1978: 332-44; Prestwich 1996: 13-15;). These were held by *bannerets* or knights. *Bannerets* were individuals of knightly status who could afford to maintain or hold the fees of five or more knights, but who did not themselves possess baronial status (Prestwich 1996: 13-15). William of Hastings held five knights' fees as part of his hereditary stewardship which could be described as a *banneret*, but he also held his own barony at Little Easton in Essex (Keats-Rohan 2002: 506; Appendix 12.0). A *banneret* was originally a military rank that demonstrated the title bearer's status by the display of a distinctive short-tailed banner rather than the long-tailed pennant that knights displayed, but by the early 12th century this military function was becoming a social distinction that emphasised the status of title holder as a gentleman (Stenton 1961: 38-40). It should be noted that Henry II granted no new English baronies with more than five knight's fees (Holt 1992: 57).

However, some individuals aspiring to become *bannerets* acquired fees from several lords. Berard, for example held property from St Edmund worth £8 2s 0d in 1086, plus property from Robert son of Corbucion in Whatfield and from Roger Bigod at Tasburgh in Norfolk (Brown 1984: 9,219.; Rumble 1986: 14,16;24;57;110-112. 40, 5.). This might suggest that Berard was attempting to amass enough estates to raise his and his family's social status. Others sought to use their service to the abbey or bishopric to amass enough estates to raise their family's social status to *bannerets* and even aspire to baronial status, for example the de Cockfield and de Milden families discussed in detail elsewhere (Appendices 16.7-8).

4.36: Post-civil war changes to the membership

By 1166 half of the fees of the Knights of St Edmund were held as a single fee or a fraction of a fee as small as a $\frac{1}{3}$ and $\frac{1}{4}$. Moreover, more than one individual could hold a single knight's fee or even a fraction of a fee, creating partnerships that shared the responsibility for providing a knight, or later a *scutage* payment. However, most of these knights' fees were held by obscure individuals who held exclusively from St Edmund and no other lord between 1066 and 1200. By comparing the *Cartae Baronum* and Jocelin's list, it is possible to observe that by 1200 all the $\frac{1}{3}$ fractions of knights' fees had been eliminated and the $\frac{1}{4}$ fees reduced to two by 1200. This might suggest that some rationalisation and reorganisation of the knights' fees occurred between 1166 and 1200.

There are no surviving returns from St Edmund to the exchequer c.1153-8, suggesting the effect of administrative dislocation caused by the civil war in the region was profound. Furthermore, evidence exists to suggest that the conflict between Earl Warenne and Earl Bigod continued unofficially in East Anglia until 1156 and that Henry II had to demand that Earl Hugh send the knights of those fees he held for St Edmund to perform their garrison duty at Norwich castle (Douglas 1932: 99-100). However, after c.1158-9 the Knights of St Edmund start regularly appearing in the royal administrative records. In that year the Abbey paid £133 7s 8d to the exchequer as a *donum* towards the Toulouse campaign of Henry II (Hall 1896a: 17; Amt 1993: 182-3).

As the late 12th century progressed, *scutage* payment rather than personal service are more frequently recorded in the exchequer records (Hall 1896a: 16-134). Both Stephen and Henry II had recognised that warfare was changing and preferred to pay full-time professionals rather than rely on less than-keen, politically fickle, poorly trained, equipped and mounted amateurs (Douglas 1932: cii; Prestwich 1996: 147-58; Verbruggen *et al.* 1997: 127-44; Bennett 2000: 96-113). Following the civil wars of Stephen's reign, it would only be in extreme emergencies,

such as the battle of Fornham in 1173 and the siege of Windsor in 1193, that the Knights of St Edmund were pressed into battle.

As time went on the Knights of St Edmund became increasingly problematic. According to Jocelin of Brakelond, they appear to have given Abbot Samson a particularly difficult time. For example, they tried to claim lands and rights that they were not entitled to, then c.1196-7 disputed how many of the 51¼ knights' fees were expected to perform military service and in 1197 completely refused to serve overseas (Greenway and Sawyer 1998: 51-53, 58-61, 76-77).

This conflict occurs in the context of the enormous inflationary pressures operating by the end of the 12th century. In the early 13th century the daily rate of pay for a knight was 2s per day and service was now calculated for forty days (Prestwich 1996: 62 & 84). It is therefore possible to estimate the cost of a knight's service per annum around 1200 to be £4. While acknowledging the possible increase in income from the lands that formed the fee, it is argued here that this income could not keep up with the spiralling cost of inflation and increasing costs of warfare. Jocelyn's list suggests that the lands that the knights held in return for their fees did not increase in number or acreage; the same land still had to produce the same number of knights irrespective of inflation. This would mean that something like 50% of the knights' fees were wholly uneconomical by c.1200, in terms of the cost of participation in warfare and, therefore, the Knights of St Edmund were effectively subsidising the Abbey's military responsibilities.

Due to the process described by Holt (1989: 47) above, few families managed to hold on to their membership of the Knights of St Edmund from 1086 to 1200. Even the established fees of baronial families, such as the de Valognes, could see their knight's fees alienated, reduced in number, broken up or reassigned by 1200. However, it is noticeable that the two families that consistently held fees were both baronial and based in Suffolk: the Bigod and Blundus families.

This evidence suggests that, far from being rigidly fixed, the precise holdings of the Knights of St Edmund altered considerably between 1086 and 1200 when new property became available to create new fees or when existing fees were redistributed, as the fortunes of different dynasties changed. The Knights of St Edmund never had a fixed membership, its changing membership reflected both the ability of families to produce legitimate male heirs and the fluid political conditions in Suffolk between 1066 and 1200. This probably parallels the experience of the feudal tenants of the other major baronies and *bannerets* in the county between these dates. When baronial families established themselves in the county, for example the Bigods, Blundus, de Veres and Clares, or new baronies were created within the county, for example the Pecche,

they were recruited into the feudal organisation that was the Knights of St Edmund (Saunders 1961: 3-4; 52, 34-5 & 46-8).

Membership of the Knights of St Edmund established a formal feudal relationship between the Abbot and the heads of these important local families. It is argued here that the Knights were an institution that bound the most important members of the Anglo-Norman elite into a local association controlled by the Abbot. This relationship gave the Abbot enormous personal political power and considerable influence over these baronial families, as well as providing the abbey with its own military force. The Knights of St Edmund were therefore an important means of social control, by which the Abbot of St Edmund's Abbey could exercise a degree of social control over the knights, *bannerets* and barons of Suffolk.

4.37: The Knights of St Edmund and their castles in Suffolk c.1066-1200

Almost 37% of castles built in Suffolk between 1066 and 1200 were constructed by members of the Knights of St Edmund, and 70% of these castles occur within the Liberty of St Edmund (Map 4.6). By implication this would require the approval or at least tacit agreement of the Abbot, acting as viceroy, in order to construct them, thus making the Knights of St Edmund the single most important institution for the agents of castle-building in Suffolk between 1066 and 1200. The following Knights of St Edmund were either castle building agents or permitted their feudal tenants to construct castles in the county:

1. Maurice of Windsor: Lidgate c.1120-1135 (Appendix 1.18)
2. William Blundus: Great Ashfield c.1135-50 (Appendix 1.12)
3. Aubrey II de Vere: Burgate before 1086? (Appendix 1.3)
4. Robert or Peter de Valognes: Great Fakenham c.1086-1100 (Appendix 1.13)
5. Richard fitzGilbert: Clare c.1090 (Appendix 1.5)
6. Gilbert II de Clare: Desning c.1135-48? (Appendix 1.7)
7. Adam I de Cockfield: Lindsey c.1121-48 (Appendix 1.19)
8. Adam I de Cockfield: Groton c.1121-48 (Appendix 1.14)
9. Roger I or William I Bigod: Framlingham c.1100-7 (Appendix 1.10)
10. Hugh I Bigod: Bungay pre-c.1140 (Appendix 1.2)

4.38: St Edmund's Abbey and castle building

Between 1066 and 1200 eleven castles were built within the Liberty of St Edmund (Map 4.6). There appear to have been two circumstances in which castles were constructed within the Liberty.

- When baronial or sub-baronial members of the new secular elite within the Liberty gained permission from the Abbot to construct castles there.
- When castles were constructed within the Liberty during periods of civil war, when the royal or Abbey administration were unable to prevent ambitious *bannerets* from constructing castles within the Liberty without the Abbot's permission, for example, Milden castle (Appendices 1.20 & 16.9.1-3; Chapter 5.4.1-7).

4.38.1: *Baronial castles*

On the death of Henry I five baronies; namely Great Ashfield, Clare, Kentwell, Cavendish and St Edmund's, had been established within the Liberty (Map 2.8). However, these baronies appear to have produced only two baronial castles between 1086 and 1200. Clare (c.1086-90), that was built before the Lord of Clare became a Knight of St Edmund after 1166 and Great Ashfield (c.1135-50), that was constructed by the Blundus family who were Knights of St Edmund from c.1086 (Appendices 1.5 & 12). The latter was probably built during the civil war, only survives as a single large motte and archaeological investigation has demonstrated a burnt horizon suggesting it was destroyed before it was completed (NSMR Suffolk 175). No further baronies were established in the Liberty, and both baronial castles are located on the periphery of the Liberty for reasons discussed below.

4.38.2: *Sub-baronial castles*

A further nine castles were constructed within the Liberty between 1066 and 1200, at Desning, Freckenham, Great Fakenham, Groton, Lidgate, Lindsey, Milden, Nayland and the Red castle at Thetford (Appendices 1.7; 11; 13-14; 8-21 & 25). However, none of these appear to be baronial *caput* castles. These are all sub-baronial, built either as secondary castles, constructed in addition to baronial castles which had been built elsewhere or built by *bannerets*, perhaps aspiring to baronial status or by baronial officials.

A further five castles were constructed by Knights of St Edmund at Lindsey (c.1121-48?), Groton (c.1121-48?), Great Fakenham (c.1110?), Desning (c.1135-1148?) and Lidgate (c.1120-1135?) (Appendices 1.7; 13-14 & 18-19.).

Four castles constructed in the Liberty were not built by Knights of St Edmund. The Red Castle (c.1135-50), is an urban castle situated in Thetford on the southern, Suffolk, side of the river, but within the Liberty of St Edmund. It was probably constructed by Earl William III or IV de Warenne, in the latter case could be interpreted as royalist ally of St Edmund's Abbey (Keats-Rohan 2002: 239-40). The three remaining castles were Milden (c.1135-1148?), Freckenham (c.1135-41) and Nayland (c.1135-53) (Appendices 1.11; 20 & 21). Freckenham was probably constructed by Ascelin, the Bishop of Rochester (c.1135-41), who was probably an ecclesiastical ally of St Edmund's Abbey (Keats-Rohan 2002: 836). Nayland was probably constructed by the royalist baron Robert or his son Henry of Essex, and probably should be interpreted as an allied castle, despite the Abbey's hostility to the latter (Keats-Rohan 2002: 449-50). Milden was probably built by Peter I de Melding; it is argued later that as a *banneret* of the bishop of Norwich, this is the only castle in the Liberty known to have been hostile to St Edmund's Abbey during the civil-war (Keats-Rohan 2002: 578; Appendices 16.9.1-3).

4.38.3: The distribution of castles within the Liberty of St Edmund

The first thing to note about the distribution of castles within the Liberty of St Edmund is that five castles are found along the Liberty's eastern border, one on the northern, three on the western and two on the southern. This would suggest that the principal perceived threat lay to the east of the Liberty (Map 4.6). It would also seem to confirm the impression that the conflict with Hugh Bigod from c.1144, by far the longest and most serious, led to the creation of many more castles than any other that rebels St Edmund's Abbey had to contend with c.1135-54.

This interpretation would seem to be confirmed by the way these new castles would appear to complement the existing two royalist castles east of the Liberty, at Eye and Haughley. It is argued here that they were established in order to provide a second line of defence against Hugh Bigod behind those royal fortifications.

In addition, all the castles built in the Liberty would appear to be located to protect the eighteen core settlements in the immediate vicinity of Bury St Edmunds (Appendix 14.0, Map 4.7). These settlements were among the most valuable properties that the Abbey possessed in 1086. Given the Abbot's extraordinary powers within the Liberty, these settlements were those where the Abbey's control was effectively absolute.

This evidence strongly suggests that within the Liberty of St Edmund castle building occurred as part of a deliberate and conscious strategy by the Abbey, with the aim of protecting these core vills. Therefore, the Abbey of St Edmund's, given the Abbot's viceroyship, must be seen as an important agent in the construction of almost a third of all Suffolk castles and was also probably responsible for licensing castles within the Liberty. However, just as the Abbey sought to exclude rival religious institutions and baronies, it also sought to exclude baronial castles from the Liberty and those baronial families that did construct castles were drawn into a feudal relationship with the Abbey through the Knights of St Edmund.

Castle building within the Liberty reached its peak during mid-12th-century at the time of the civil wars of King Stephen's reign, specifically as part of the campaigns against the rebellious Bishop Nigel of Ely c.1138-40, Geoffrey II de Mandeville c.1140-4 and Hugh Bigod c.1141-1153 (Keats-Rohan 2002: 828-9; 566-7; 175-6). However, due to a lack of historical documentation or detailed archaeological dating it is unclear how many of these were actually constructed during the conflict itself.

Most of the castles in the Liberty were sub-baronial, either secondary castles of existing baronies or constructed by those who aspired to baronial status, rather than as independent lordship centres. They are deployed in such a manner to suggest that their function was to both prevent and facilitate raiding, the dominant form of medieval warfare, as well as to protect the Liberty and Abbey of St Edmund.

4.38.4: Castle building in the Liberty after 1200

Only one 'new' castle was constructed within the Liberty after 1200 and that was the rebuilding of Lindsey castle by Thomas de Burgh c.1204, this happen in most unusual circumstances that explains why King John rather than the Abbot of St Edmund's Abbey licensed the castle (Appendix 1.19). It is possible, given the important role that both Adam I and Robert de Cockfield performed as an agent of the Abbey that the de Cockfield family kept their castle at Lindsey after the civil war (Appendix 16.7).

Therefore, only Lindsey, Clare and Lidgate castles are evidenced as continuing to function as castles beyond 1200, based on documentary sources and the evidence of surviving standing archaeology. All of these castles had existed prior to 1135 and were thus not destroyed when Henry II later ordered all castles built since the death of Henry I to be slighted. Furthermore, it

must be noted that all these castles were held by members of the Knights of St Edmund or, in two cases, by officials of the Abbey who were also Knights of St Edmund.

It has been argued that the Abbey of St Edmund controlled castle-building agents by entering into a feudal relationship with them and that the Abbey was responsible for the strategic castle-building that occurred within the Liberty of St Edmund. Of the eleven castles constructed within the Liberty, seven or possibly eight, representing 63% to 72%, were constructed by the Knights of St Edmund. Furthermore, of the eleven castles constructed within the Liberty only two can be positively identified as baronial lordship centres. Thus all the other castles were sub-baronial. In addition, only three of the eleven castles appear to have continued in use as castles after the war, and all of them were probably in existence before 1135. Finally, no new castle was constructed within the Liberty after 1200; only pre-existing castles, such as Clare, Lidgate and Lindsey, show evidence of being up-graded in the 13th century, and therefore implying their continued use (Appendices 1.5; 18 & 19).

4.39: Conclusions

This chapter has attempted to explore the central - cultural, structural and societal - level of Braudel's *Annales* model relevant to castle-building in Suffolk and done so by examining the Cult, Abbey and Knights of St Edmund.

4.39.1: Cultural evidence

- a. The Benedictine community at Bury St Edmunds took the pre-existing hagiography of St Edmund and developed it from the late 11th century onwards. In doing so it emphasised an important medieval *mentalité* that saints could and did actively intervene in the world, and attributed to St Edmund a new revenge *topos*. This revenge *topos* continued to expand throughout the 12th century, evidenced by a growing frequency of revenge stories, a wider social range of victims and an expanding focus of the saint's righteous anger, from East Anglia to what I have called an 'intercontinental strike-capacity'. The introduction of the revenge *topos* occurs precisely at the same time as the abbey is expanding physically and seeking to establish its ecclesiastical autonomy and this is contemporaneously with castle building in Suffolk.
- b. Late Anglo-Saxon Suffolk in 1066 had two or three Benedictine monastic foundations. By 1200 thirty four new monastic communities had been established. Many of these were belonged to new religious orders, including most notably the Augustinians.

Furthermore, only nine, or 26%, of these were constructed at the agency of the county's castle-building elite and of which only five, or 15%, were broadly contemporaneous with the foundation and/or operational life of castles in their immediate vicinity. It was argued that within the Liberty of St Edmund the Abbey of St Edmund sort to restrict the number or size of these new religious communities. Moreover, that apart from urban and mainly baronial castles, there is no correlation between castles in Suffolk and new religious communities in their immediate vicinity. However, it is argued here that the period 1086 and 1200 saw the construction thirty four major new monastic foundation and the introduction of twenty seven new castles must have placed a huge demand on the limited timber-supply evidenced in Domesday Suffolk.

4.39.2: Structural evidence

The Abbot of St Edmund's had before 1066 acquired a unique series of secular rights within the Liberty of St Edmund. The extraordinary, if not unique, concentration of power that the Abbot enjoyed gave the Abbey administrative, judicial and fiscal independence from the royal government of England. When combined with the overwhelming concentration of its property within the Liberty, it meant that the Abbey was both the principal landowner and represented the royal administration within the eight and half hundreds of the Liberty. However, the Abbey also sought to establish for itself an equally unique series of ecclesiastical exemptions from the English Church. Between 1066 and 1200 it established ecclesiastical autonomy of the Abbey of St Edmund's from the bishop of Norwich, the archbishop of Canterbury and the papal legate. The political and ecclesiastical autonomy that the Abbey enjoyed strengthened its control over the Liberty and is evidenced by the Abbey's ability to limit the establishment of baronies, rival religious houses and castles within it.

4.39.3: Social evidence

- a. The Abbot of St Edmund's possessed an effective military force in the form of the Knights of St Edmund between 1066 and 1200. This organisation bound many of the barons, *bannerets* and knights in Suffolk in a feudal relationship under the personal control of the Abbot. The Knights of St Edmund gave the Abbot a degree of social control over the new Anglo-Norman elite that constructed castles in Suffolk between 1066 and 1200. When the Abbot required castles to be constructed within the Liberty he was able to use the members of the Knights of St Edmund to build them to a strategic plan in order to protect the core settlements of St Edmund's and the Abbey itself (Appendix 14.0). Furthermore, the Abbey could also enforce the destruction or

abandonment or conversion to a manorial role of these castle sites after the civil war of 1135 to 1154. In addition, the Abbey was able to prevent any further castle building within the Liberty after the rebuilding of Lindsey castle c.1205. Finally, the Abbey of St Edmund was the indirect agent responsible for the construction of seven or eight castles within the Liberty and was therefore, indirectly responsible for the construction of at least a third of all of Suffolk's castles.

- b. It was noted that, although the baronial dynasties demonstrated relative stability of membership, those of a lower status had a relatively high turnover of membership, especially in the late 11th century. This pattern, it was suggested, probably parallels the experience of many of the knights and *bannerets* of the larger feudal baronies within the county between 1086 and 1200, for which detailed documentary sources either never existed or have not survived, or were only recorded in 1166. The male line of the de Vere's survived until 1702, the Clare's until 1314 and the Bigod's until 1306. It is argued here, that this is probably best explained by the advantage that the baronial dynasties had over non-baronial dynasties in producing a male heir, in a society dominated by of patrilineal inheritance. The Baronage were able to maintain a larger kinship network of male relatives or heirs because of their economic power, represented by their more extensive land holdings, and in turn a wider choice of possible partners, because of their social status (Hartung 1976: 607-622). It should also be noted that ecclesiastical lordships enjoyed an even greater advantage. They were not dependant on patrilineal inheritance and no legitimate heirs or heiresses were produced or required by ecclesiastical lordships. Consequently there was no sub-division of the lordship's feudal assets to maintain male relatives, no dowries to be provided for daughters and no chance of the feudal lordship passing into another's hands as a result of wardship (Walker 1976: 104-116). In short ecclesiastical lordships, like the Abbey of St Edmund, could continuously amass land, wealth, rights and privileges, unencumbered by the constraints operating upon the Anglo-Norman secular elite.
- c. It has been argued that the Abbey of St Edmund constructed a three-fold defence system, based upon:
- The development of the myth of a vengeful saint.
 - The unique political power of the Abbey represented by the Abbots viceroyship and underpinned by the military force of the feudal institution of the Knights of St Edmund.

- By exploiting its feudal relationship with local dynasties, the Abbey was able to constrain castle building within the Liberty and insured when castles were built they were located where they would be most useful to the Abbey.

It would seem reasonable to ask: did this defence system succeed? The only way we can test the success or otherwise of this defence system is to note all the locations where conflict is evidenced from historical sources, charters or archaeology (Map 2.6). From this map and the case made in Chapter 2.5.3.b, we can see that there are clear concentrations of evidence for conflict in Suffolk during the reign of King Stephen.

The majority of castles in the Liberty occur along its eastern side (Map 4.7). It has been argued that the distribution of castles in the Liberty suggests that Hugh I Bigod's almost continuous conflict with King Stephen and his viceroy, the Abbot of St Edmund's Abbey, from 1144 until 1153 best explains this distribution.

Only one hostile castle can be identified, from documentary sources, within the Liberty, namely Milden castle. Milden was constructed by Peter I de Melding, who held knights' fees both from the Valognes family, as part of the honour of Bacton, and directly from the bishop of Norwich (Appendix 16.9.2). His castellan, 'W. of Milden', and another, the castellan 'W. of Ambli', whose castle has not been identified, attacked Groton and Semer during the civil war. Adam I de Cockfield was temporarily granted Semer and Groton, 'because he had a castle close by, at Lindsey' (Greenway and Sayers 1998: 122-3) and could defend Groton and Semer. It should be noted that Semer is also one of the 39 core settlements held by the Abbey of St Edmund's (Appendix 14.0).

It is therefore possible to conclude that the defence system established by the Abbey was severely tested during the civil wars of Stephen's reign. This saw the Abbot, as viceroy, in conflict with Nigel the bishop of Ely 1139-42, Geoffrey de Mandeville 1143-44 and Hugh Bigod 1136, 1140 and 1144-53. However, the Abbey's defence system was ultimately successful in protecting most of the thirty-nine core settlements (Appendix 14; Map 4.7), where it was the exclusive tenant-in-chief, and especially those eighteen in the immediate vicinity of the Abbey at Bury St Edmunds. Only one core settlement, Coney Weston, was alienated from the Abbey as a result of the civil war and two other in the Liberty at Semer and Groton were attacked. This led to the Abbey deploying an Abbey official and Knight of St Edmund, Adam de Cockfield, to the district as we shall see in chapter 5.2.

Therefore, it is possible to claim that the defensive structure that the Abbey of St Edmund's created, including the hagiography of a psychotically vengeful saint, the extraordinary secular and ecclesiastical privileges, as well as the feudal, military, social and castle-building association of the Knights of St Edmund, effectively protected the Abbey and Liberty of St Edmund during the civil war of King Stephen's reign.

Chapter 5.0: The sample of surveyed Suffolk castle earthworks

5.1: Introduction

This chapter addresses the short-term or *evènement* evidence of Braudel's model using the case studies at Burgate, Groton and Milden castle earthworks. Three further surveys of Desning, Finningham and Great Fakenham earthworks were carried out and are in Appendices 15.1-3 (Map 5.1).

The three sites examined in detail in this chapter represent the most informative of the six sites surveyed and demonstrate the three different morphological forms demonstrated by Suffolk castles: ring-works, motte and tower and motte and bailey castles. The remaining three sites in the Appendices are used to further illustrate points identified in this and other chapters. The survey results will be discussed in chapter 6.

The selection of these small castle earthworks aims to counter the bias of large stone-built castles, often the *caput* castles of major baronial lordship that traditionally have dominated castle studies. In addition, it seeks to test Eales' (1990: 49-78) and Coulson's (1994b: 67-92) assumptions that small earth and timber castles were: 1. built in the immediate aftermath of the conquest; 2. not real castles but 'fortlets' built as 'adulterine castles' or 'fieldworks' during the civil wars of King Stephen's reign 1135 to 1153. Therefore, the chapter discusses four themes for each castle site:

- the associated geological, hydrological and historic timber resources;
- the morphology, archaeology and historical evidence;
- the demographic and social context of each castle site;
- the agents of each castle's construction, their lordship, status and dynasty.

5.2: Foxhills Earthwork, Burgate Wood, Burgate

National Sites and Monuments Record: Suffolk 30571

Suffolk Archaeology Unit Sites and Monuments Record: Burgate BUR 007

Height above OD 52 m

Solid Geology: Crag

Surface Geology: Quaternary undivided; chalky, pebbly, sandy clay (Lowestoft till)

Hundred: Hartismere

Parish: Burgate

Pre-1844 Parish size: 8.36km²

Modern Local Government District: Mid Suffolk

Date of survey: 10-15th March 2003

5.2.1: Location and topography

Burgate was a Domesday vill and is located 5km due south of the Waveney river valley in the pays of High Suffolk (Appendix 4.5, Maps 3.21, 5.2-4). According to both the index of the 1st edition of the Ordnance Survey and Victoria County data, the 19th-century area of the parish of Burgate was 2067 acres (8.36km²) (Ordnance Survey 1893; Minchin 1911: 687; Rumble 1986: 35,5;7-8.).

Burgate Castle is Suffolk's 'lost' castle, for many years lying hidden within Burgate Wood (Appendix 1.3). The earthwork was not recorded in the 1st edition of the Ordnance Survey (Map 5.5), or its subsequent revisions until 1965, and therefore was not recorded in the Victoria County History's medieval earthwork survey (Ordnance Survey 1891: *Suffolk Sheet XXIV SE*; Wall 1911: 583-632).

In 1934 Basil Brown found pottery within the earthwork that he believed to be Saxon, but which was subsequently re-ascribed by Knocker as 'Saxo-Norman' and dated c. 11th to 12th century. A second visit by Brown 1961 found further similar pottery and oyster shells, again within the earthwork and these are now held by the Suffolk Archaeology Unit (SAUSMR Burgate BUR 007). On the basis of this archaeological evidence the earthwork has now been scheduled under the Ancient Monument and Archaeological Areas Act 1979 (NSMR Suffolk 30571).

The earthwork overlooks Botesdale and is located on a gently sloping northwest-facing slope. At the bottom of this slope, some 1000m northeast (TM069763), is an important road junction

where the former Roman road and later Turnpike c.1769 from Ixworth to Scole meets an even older communications route down Botesdale to Redgrave and Lopham Fen (Maps 5.2 & 6; NSMR Suffolk 116; NSMR Suffolk 55; NSMR Norfolk 403; Gurney 1994: 34-5; Plouviez 1995: 69-80; 1999: 42-4 & 195; Robertson 1999a: 126-7 & 210; Dymond 2003: 4). At Lopham Fen both the Waveney and Little Ouse rise; it is both a Site of Special Scientific Interest and Special Area of Conservation (English Nature 2007c; Joint Nature Conservation Committee 2007h). Lopham Ford was a historically important communication route that crosses the river valley (TM039790) between the watershed of the Waveney and Ouse rivers system. It was the only place in either the Waveney or Little Ouse valleys that could be crossed dry foot before the rivers were bridged (Bennett 1884: 1, 2, 10, 16-18).

Today the earthwork is situated within the 75.36 acre , or 30.5ha, Burgate Wood, which since 1987 has been a Site of Special Scientific Interest (SSSI) notified under the Wildlife and Countryside Act 1981 (Map 5.2; English Nature 2007b). From its scheduling it is described as an ancient coppice-woodland-with-standards structure that continues to support semi-natural stands of oak and hornbeam. The wood around the earthwork is mixed mainly immature oak *Quercus robur* and coppiced hornbeam *Carpinus betulus*, but also contains a scatter of other species including silver birch *Betula pendula*, especially to the north and scots pine *Pinus sylvestris*, to the south of the earthwork (English Nature 2007c; Figure 58).

The woodland where the earthwork is located forms a discrete area within the larger Burgate Wood, delineated by a substantial medieval woodland bank and ditch along its eastern edge (Map 5.5). A less imposing woodland ditch forms the southern boundary where the wood meets the arable land in Botesdale. The western side of this discrete area within the wood is delineated by a ride or fire-break, with a more mature plantation of deciduous woodland of mainly ash *Fraxinus excelsior* and field maple *Acer campestre* evidenced on the opposite side of the ride to the earthwork (Figure 59). The northern boundary of this discrete area is delineated by a dry, shallow, partly back-filled ditch for most of its length but also incorporates two short, deep and water-filled lengths of ditch, one of which is recorded in the 1st edition of the Ordnance Survey map and interpreted by Dr Healey the former field monument warden, as flooded sections of a sunken road (Ordnance Survey 1891: *Suffolk Sheet XXIV SE*; NSMR Suffolk 30571; Map 5.5; Figure 60). By contrast, on the acidic sandy soils of the plateau the woodland of Burgate wood beyond this boundary is dominated by oak and hornbeam.

Within this discrete area of the wood the earthwork is located on its extreme western edge. Immediately to the east and south of the earthwork is an area of dense immature and mixed woodland. To the north there is a more open area of shrubs, Bramble and Bracken, suggesting

sandy acidic soils, until it meets the boundary ditch north of the earthwork. Furthermore, there are a number of mature and immature trees located on the earthwork itself.

Burgate Hall (NSMR 30570), located 150m east of the earthwork (TM07937563), is surrounded by a large rectangular moat covering an area of 1.6 acres (6475m²). The surviving jettied-timber building was built for Sir Nicholas Bacon c.1587-8. However, two c.1400 crown posts in the roof have been identified by Phillip Aitkins during a survey in 1990, which suggest that an earlier building is incorporated into the hall. Furthermore, Basil Brown is reported to have found an Early Medieval rim-shard near the moat, hinting at late Anglo-Saxon or early Anglo-Norman activity in this vicinity (SAUSMR BUR 005).

The 14th-century St Mary's Church (Mortlock 1990: 40-1; Pevsner and Radcliffe 2000: 126-7) lies 550m east of the earthwork. Excavations by the Rev. Appleyard in 1928 within the church identified an earlier building under the present one and the site of an earlier Anglo-Saxon altar under the present altar. Surrounding the church is an earthwork bank three feet (0.94m) high. Since this bank has produced late Anglo-Saxon pottery fragments reported by Basil Brown in 1955, it is interpreted as Anglo-Saxon in origin (Appleyard 1931: 7 & 19; West 1998: 14; SAUSMR BUR 001).

5.2.3: Environmental resources

5.2.3.a: Geological resources

5.2.3.a.i: Solid geology

The solid geology of the High Suffolk plateau at Burgate is crag, which is 20-60m in depth in the district. However, the crag itself overlays chalk, so that in Botesdale the chalk forms the solid geology, which is 240 to 330m thick (Bennett 1884: 2 & 5-6; Trist 1971: 2 & 7; Mathers *et al.* 1993: 7-9, 11-12; British Geological Survey 1995).

The crag gives way to the upper chalk 200m immediately north of Burgate ring-work (Map 5.7). This boundary between the two solid geologies continues on a roughly southwest to northeast axis across the parish, so that Great Green is located upon a solid geology of chalk (Figure 61) and Burgate Hall upon a solid geology of crag. This has implications for the local hydrology. Although, both chalk and crag solid geologies are permeable, the compressed sands that form crag drain faster than the slower micro-capillary drainage of the chalk (Mathers *et al.* 1993: 34).

Should chalk become saturated, for example by large amounts of water draining into it from a more permeable solid geology, then an aquiclude is created, preventing further downward percolation of water into the chalk stratum, which encourages lateral flow. The interface of the two solid geologies underlying Burgate have contributed to creating a perched piezometric surface in the glacial sands and gravels that overlie these geologies, as evidenced by the damp conditions around the earthwork in the wood. Here the lateral flow of the piezometric surface intersects the slope of the topography. Moreover, it should be noted that the damp conditions would be far more pronounced if the site were not on a slope, the mature woodland did not take up considerable amounts of water or the medieval and post-medieval drainage ditches did not exist.

5.2.3.a.ii: Drift geology

Two drift geologies dominate the geology of the parish (Map 5.7). The smaller is a discrete area in the northwest of the parish within Botesdale consisting of glacial-fluvial sands and gravel in the valley bottom and Lowestoft till on the valley sides. As the solid geology is chalk, this till is noticeably more calcareous than that found on the plateau.

By contrast, the dominant drift geology within the parish and associated with the upland plateau is Lowestoft till, varying in depth up to 50m, but generally found in the range 10-30m. Due to the underlying crag, the Lowestoft till soils is sandier and marginally more acidic on the Burgate plateau. This drift is associated with Ashley and Beccles series soils (Bennett 1884: 14-8; Trist 1971: 12-13; 64-5; Hodge *et al.* 1984: 96-8; 117-119; Mathers *et al.* 1993: 18-19 & 25-6).

The geological map shows that there are discrete patches of glacial sands and gravels, partially overlain with Lowestoft till, on the Burgate plateau (Map 5.7). This geological feature is known locally as a 'gault', which contains a perched piezometric surface. In the historic past they have been used as local, seasonably variable and limited sources of water-supply. The largest area of exposed glacial sands and gravels lies between Great Green and Burgate church. The Great Green evidences numerous ponds associated with it and the only recorded well-shaft in the parish occurs here (Woodland 1942a 4-5). It is further noted that Burgate Hall and church lie on the periphery of this area of glacial sands and gravels and that Burgate Hall is also associated with a cluster of ponds. By contrast Glebe and Brooke farms are located on separate areas of head geology.

Although the soils of the Burgate plateau are permeable sandy Lowestoft till, they contain lenses of less permeable clays that act as an aquitard and restrict water permeating into the underlying solid geology (Hodge *et al.* 1984: 118; Mathers *et al.* 1993: 34). However, the impermeable nature of the drift geology offers some advantages. At Burgate clay beds 5m deep have been exploited for brick-making in the historic past (Bristow 1990: 37), and the clayey drift geology is especially advantageous for the construction of moats or ponds. The parish of Burgate evidences five additional moated sites, at Stubbings Entry (SAUSMR Burgate BUR 004, TM06307410, NSMR 30572, Hill 1932: 44), Burgate Hall (SAUSMR Burgate BUR 005, TM07937565), Moatyards (SAUSMR Burgate BUR 012, TM09697600), Glebe Farm (SAUSMR Burgate BUR 017, TM08957545) and Waveney Lodge (SAUSMR Burgate BUR 018, TM07707495). One of these sites may be the lost second manor in the parish, known as Higham and held c.1200 by Robert Bellocampo, which is believed to have been located close to Imple wood (Copinger 1909a: 244-5; Hill 1932: 42-3). As a result, the land around Burgate suffers considerable drainage problems, and surface water-supplies can be easily polluted by lateral run-off (Trist 1971: 12).

The Lowestoft till at Burgate overlies an intermediate geology between the drift and the solid geology. This intermediate geology is an area of glacial gravels and sands, which forms the drift geology in a discrete area between Burgate Church and Great Green but extends under the Lowestoft till as far north as Great Green, as the well section demonstrates (Woodland 1942b: 26). These glacial sands and gravels are exposed in the vicinity of the earthwork where the geology intersects topography. The sandy soils support acid-loving flora such as silver birch and the less permeable till is associated with *hassocks* of bog grass, evidenced immediately north of the earthwork and on Burgate Green (Forby 1970a: 151-2).

5.2.3.b: *Hydrological resources*

The parish of Burgate lies within the Ouse rivers drainage basin, with most water draining into Botesdale and then westward down the river Little Ouse (Appendices 5.1-6). The index to the 1st edition of the Ordnance Survey records 2.722 acres, or 1.1ha, (11 016m²) of water in the parish (Ordnance Survey 1893), and the district has a mean annual rainfall of 850mm a year (Mathers *et al.* 1993: 34). Chalk is the district's principal modern aquifer. However, the permeable top soil of Beccles 1 association soils contains deeper impermeable clay lenses, which also act as an aquitard, thus favouring pond and moat construction (Map 5.8). It will also be argued that settlement occurs at Burgate, where an impermeable lens of clay occurs overlying an intermediate geology of glacial sands and gravels, as this allowed the construction of both ponds and shallow wells.

5.2.3.b.i: *Watercourses*

Most of the rain-fall in the parish drains northwestwards into Botesdale. The stream in Botesdale meets the Little Ouse in Hinderclay Fen, close to its source (TM030787), and forms part of the Ouse drainage system, which discharges into the fens.

One modern watercourse is evidenced in the parish of Burgate, which rises at OD+45m (TM086754) 200m west of Glebe Farm and drains eastward into 'The Marsh' northeast of the nearby village of Thrandeston at (TM111769), from where it drains eastward into the river Waveney (Bennett 1884: 1-2; Ordnance Survey 1999h).

A second stream is shown on the Burgate Tithe map of 1840. This rises at Great Green before flowing eastwards past Brook farm (TM088766), to which this watercourse gives its name, and empties into 'The Marsh' (SCRO(I). *Tithe Map and Award: Burgate*. 1840. FB 136/C1).

There is no mill recorded in the Domesday survey attached to Burgate manor in 1086 and it is suggested that the flow of neither watercourse was capable of working a mill (Rumble 1986: 35,5;7-8.).

5.2.3.b.ii: *Wells*

The modern 1: 25 000 Ordnance Survey map for the area shows a single well in the parish on the western edge of Great Green,⁸ located immediately south of Oak Tree farm (TM077763), just below the OD+50m contour. Whitaker did not record this well (Whitaker 1906). Woodland records a modern public well on Great Green at OD+140 feet (42.67m), bored and lined to a depth of 207 feet (63m), with a rest water level of 28 feet (8.53m) (Map 5.8). The excavated well gives a good cross section through the local geology underlying Great Green, which shows 1 foot (0.3m) of topsoil, overlying 24 feet (7.3m) of boulder clay, overlying 76 feet (23m) of glacial sands and gravels, with the top of the chalk 101 feet (30.6m) from the surface (Woodland 1942b: 26).

The rarity of wells in this district reflects the topography and the combination of different solid and drift geologies, which create problems for sinking wells. The fine-grained running sands pollute the supply, and thus boreholes or wells driven into the geology at Burgate cannot stand

⁸ A second modern well is shown on the Ordnance Survey map to the north of Great Green at Locksley in the neighbouring parish of Wortham (TM078765) (Ordnance Survey 1999h).

unsupported and must be lined, unlike those in chalk geology which can stand alone (Vince 1978: 5; Detay 1997: 216). It may have been possible to drive shallow wells through the till into the glacial sands and gravels or crag in the historic past, but, as the British Geological Survey (Mathers *et al.* 1993: 34 & 36) notes:

‘expected well yields are also variable and come to be very low where the till overlies crag’.

5.2.3.b.iii: Ponds

Ponds were the most important source of water-supply in the parish and the impermeable lenses within the drift geology favour their creation. The modern Ordnance Survey map shows twelve ponds within 1km² of the earthwork, but this figure does not include the two ponds north of the earthwork nor the wet moat around the earthwork evidenced at the time of the survey (Map 5.8). This would suggest that there were fifteen ponds within 1km² of the earthwork. The majority of ponds are concentrated around the settlements of Great Green (TM080763), Little Green (TM075750), Burgate Hall (TM07937563) and Glebe Farm (TM093755) (Ordnance Survey 1999h).

Sibbert’s survey demonstrated that the total number of modern ponds in the parish is seventy-seven; the parish therefore has a mean density of 9.2 ponds per km². This is close to the Mid Suffolk district mean of 9.6 ponds per km² but higher than the mean density of ponds of 7.7km² on the East Anglian Plain, which includes the pays of High and South Suffolk (Sibbert 1999: 13; 15; Table 7).

5.2.3.b.iv: Springs

A single spring is reported by the Suffolk Archaeology Unit associated with the moat at Moatyards, though it is not recorded on the Ordnance Survey map (SAUSMR Burgate BUR 012, TM09697600). A second possible spring occurs where the watercourse rises at TM086754 west of Glebe farm, but again this is not recorded on any of the Ordnance Survey maps. The Tithe map records a Spring Field 250m northeast of Glebe farm, just west of Seething wood, and this appears to feed the watercourse that runs past the Farm. Finally, the Tithe map also shows a watercourse known as the Brook running eastwards from Great Green, where it rises, and this suggests that a land spring is associated with Great Green (SCRO(I). *Tithe Map and Award: Burgate*. 1840. FB 136/C1: 150).

5.2.3.c: Historical timber resources

Burgate Wood covers an area of 75.36 acres (0.305km²) and is scheduled under Section 28 of the Wildlife and Countryside Act 1981 as a Site of Special Scientific Interest (Map 5.2; English Nature 2007b). It is surrounded by a woodland ditch, which is especially well preserved along the eastern edge of the wood. According to the SSSI scheduling, Burgate Wood evidences two different types of modern woodland:

- An oak and hornbeam wood with bracken *Pteridium aquilinum*, honeysuckle *Lonicera periclymenum* and wood sorrel *Oxalis acetosella* providing the ground cover, which is associated with the sandy clay loam soils of the plateau.
- A mixture of oak-hazel-ash woodland, by contrast, dominates the wetter conditions in the valley bottom towards Botlesdale. Here calcareous soils and glacial gravels are covered with trees such as ash, hazel *Corylus avellana* and maple as well as chalk-favouring flora such as dogwood *Cornus sanguinea*, guelder rose *Viburnum opulus* and spindle-tree *Euonymus europaeus*.

Rackham (1999: 64-5) claimed that Burgate Wood is a more or less intact medieval wood, and evidence for a medieval wood in Burgate comes from a documentary source c. 1256 of a lease to Martin le Bretun describing a 'piece of land in the township of Burgate, lying next to the land of Emma Cat, head abutting on wood of Burgate' (SCRO(I). *The Iveagh (Phillipps) Suffolk Manuscripts: Campsea Ashe*. HD 1538/174/2). Unfortunately, the precise location of this Burgate wood cannot be identified, but it was probably associated with Great Green, as that appears to be the largest population centre in the parish and evidences several early modern buildings.

Cartographic evidence suggests that Rackham's interpretation may be incorrect since, despite its large size as shown on the Burgate Tithe Map 1840 and 1st edition of the Ordnance Survey 1891, the present Burgate wood is entirely missing from Hodkinson's map of 1783 (SCRO(I). *Tithe Map and Award: Burgate*. 1840. FB 136/C1; Ordnance Survey 1891: *Suffolk Sheet XXIV SE*; Dymond 2003: 4). Hodkinson is meticulous in recording woodland elsewhere and provides detailed cartography of the rest of Burgate, including a now lost wood *Impoll* or *Impaugh* wood near Stubbing's Green discussed below. As a result, the evidence for a large and ancient area of woodland at Burgate Wood identified by Rackham is far from clear.

In addition, the Tithe Map does not show Burgate wood as unbroken woodland, as it is now, but as an area of woodland pasture dominated by a few isolated large standards. Moreover, the Tithe names the field immediately north of the present site of Burgate Hall, which accessed Burgate Wood as 'Common Close', implying that this accessed an area of Common in the historic past. However, some medieval woodland must have been present within the bounds of the current Burgate wood, because immediately north of and bordering Burgate wood is a field called 'Stubbings' (SCRO(I). *Tithe Map and Award: Burgate*. 1840. FB 136/C1: 112 & 102), a field-name that suggests it was assarted from a previous woodland on the site of the present Burgate Wood (Field 1993: 67).

Therefore, the cartographic evidence contradicts Rackham's claim that Burgate wood in its present form is medieval; rather it is suggested here that it was an area of common land, unsuitable for arable agriculture due to the damp conditions, but under woodland pasture with possible smaller areas of denser woodland within it. One of these, most likely at the northern end of the wood, is probably the Burgate Wood in the charter. It is equally possible, however that the woodland cover has changed considerably since the 11th century.

The modern Burgate wood contains numerous shallow linear features that appear to be silted ditches. The majority of these ditches are on an east-west alignment running down the slope into Botesdale (Figures 59, 60). Rackham and others have interpreted these as internal divisions within the wood. However, this area may have been a common or woodland pasture, although neither is evidenced in Hodkinson's map of 1783, which shows no woodland in the parish whatsoever. On the other hand, 'Burgate wood' was under woodland pasture on the Tithe map c. 1840, which suggests that the internal ditches found within Burgate Wood are probably medieval or post-medieval in origin and introduced to help drain the area before its conversion or reversion to woodland (SCRO(I). *Tithe Map and Award: Burgate*. 1840. FB 136/C1; Dymond 2003: 5).

It has already been noted that Burgate is one of the few Domesday settlements that acquired castles that saw a substantial fall in the amount of woodland at pig between c. 1066 and 1086, from 100 to 40 pigs (Rumble 1986: 35,5.). This suggests that 60% of the available woodland in the parish was felled between 1066 and 1086, possibly as the result of constructing the earth and timber castle at Burgate. As Rackham has pointed out, large quantities of timber were required to construct the barns at Cressing Temple in Essex or even a single timber-framed house in the late 12th-century (Rackham 1993: 85-92; 1999: 64-5). It is argued that similar quantities of timber were required when constructing earlier earth and timber castles.

Apart from Burgate wood, Hill suggested that there were three further medieval woods in the parish: 1. Lord Henniker's Big wood near the parish boundary between Burgate and Thornham (TM078742); 2. a lost wood called *Burghawe*, later known as Barfield's or Buffles Wood near Rickinghall; 3. Imple or *Impoll* or *Impaugh* wood, the name is recorded among the field-names of the Tithe map c. 1840 as First Imple, Further Imple and Imple Piece (TM0774) (Hill 1932: 7 & 11; SCRO(I). *Tithe Map and Award: Burgate*. 1840. FB 136/C1: 296, 333 & 371). Finally, there is another area of woodland called Seething wood shown on the Tithe map (TM093757) (SCRO(I). *Tithe Map and Award: Burgate*. 1840. FB 136/C1; Ordnance Survey 1999h).

It would therefore have been possible to have woodland at a hundred pigs in the Domesday settlement even if the present day Burgate wood was a common. Burgate wood is probably not all the woodland described in 1086 (Rumble 1986: 35,5;7.), and it is wrong to assume that all the Domesday woodland associated with Burgate was a single contiguous ancient wood, given Hodkinson's map of c. 1783 (Dymond 2003: 5). However, it is possible that the modern Burgate wood has seen several phases of felling and regrowth since 1086, and that the Domesday loss of woodland may include timber felled to clear land and timber felled for construction.

5.2.4: Anglo-Saxon Burgate

The OE place-name Burgate is significant. Skeats (1913: 40) interpreted it as OE *burhgeat* 'a borough-gate', the English place-name society volume for Surrey renders it as 'a gate near or in an old burh' (Gover *et al.* 1934: 202) and Ekwall (1947: 71) interpreted it as OE *burg-geat* 'gate of a burg', whereas Watts (2004: 99-100) offers no interpretation of the place name. Williams (1992: 221-240) and Renn (1994: 177-98) have argued that OE *burhgeatas* were late Anglo-Saxon lordship centres (Whitelock 1955: 431-2).

The place-name occurs four-times in settlement names recorded at Domesday, once at Fordbridge in Hampshire and three times in Suffolk (Mothersill *et al.* 1982: 1, 37-38. 69, 35.; Rumble 1986: 6,144. 7,77;108. 35,5;7.). These include the present Burgate in Hartismere hundred, recorded as *Burgatā* and *burgata* in the Domesday Book (Rumble 1986: 35,5;7.), Burgate in Colneis hundred, which is twice recorded as *buregata* (Rumble 1986: 7,77;108.) and the lost Domesday vill of *Burgesgata* in Plomesgate hundred (Rumble 1986: 6,144.). The English Place-Name Society records two more post-Domesday examples, *atte burgate* c. 1235 and *la Burgate* c. 1259 in Surrey and *Burgatesfield* c. 1336 in Rottendon in Essex (Gover *et al.* 1934: 202). This suggests that the county of Suffolk has the largest concentration of Burgate place-names of any county at Domesday.

Prior to 1066 Burgate manor was valued at £16 and held by Wulfwin, a thane of King Edward, who is probably the same person as another Wulfwin, who was also a predecessor of Aubrey I de Vere, was described as a freeman elsewhere in the Domesday Book. Wulfwin also held manors in 1066 at Lavenham valued at £10, Aldham £8 and Waldringfield £5, but Burgate was the most valuable of his manors (Rumble 1986: 35,1-2;5-6.; Map 5.9).

The manor at Burgate had attached to it individual freemen and women in the villages neighbouring Burgate and a significant sub-manorial holding in Gislingham (Rumble 1986: 35;7. 68,5.). Wulfwin's total holdings in Suffolk were valued at the considerable sum of £42.1.0 in 1066. Clearly Wulfwin, the thane of King Edward, was a man of substance who held Burgate exclusively, including St Mary's church, which has an earthwork bank around its graveyard (Mortlock 1990: 40-1; Map 5.10). The term 'churches' implies that there was more than one place of worship in the settlement, and these possessed twenty-nine acres and half a plough in the settlement both in 1066 and 1086. St Mary's church is the location of one of these churches, but the second church site has not yet been identified. However, given that Burgate lies close to the Scole-Ixworth Roman and later medieval road, a wayside chapel like Desning or a private chapel attached to the Hall might possibly be the second church.

Attached to the manor were twenty-two villagers and thirty-three small holders, along with nine sokemen, who held between themselves one hundred and forty two acres of arable and three and half acres of meadow. They had a further five ploughs, four small-holders under them and a quarter part of a church with one acre. Presumably this church was part of one of the churches already mentioned. The value in 1086 was £19.4.0 and its taxable area calculated as one league by seven furlongs and paid 5d tax.

An additional freewoman, Milde, is also recorded at Burgate along with another nineteen and a half freemen and women in outliers of Burgate located at Wortham (ten), Mellis (three), Thornham Magna (four and a half), Rickingham Superior (one) and Gislingham (one), over whom Adelelm had *soc*. Of these, a freeman in Wortham held ninety acres of arable, an acre of meadow and six and a half ploughs, and a freewoman in Mellis held another fourteen acres of arable (Rumble 1986: 35,5.). It should be noted there was no land held by freemen in the Domesday vill of Burgate and that the whole population were subject to the manor.

This evidence indicates that the manor of Burgate dominated the Domesday settlement, which had a total population of ten freemen, twenty-two villagers and thirty-seven small-holders in 1086. This means that 14% of the Domesday population living in Burgate were sokemen,

though it should be noted that freemen and women made up 33% of the total population of this manor and lived in the neighbouring Domesday settlements of Wortham, Thrandeston, Mellis, Thornham, Rickinghall and Gislingham (Rumble 1986: 35,7.). The evidence of the morphology of the settlement pattern at Burgate suggests a dispersed settlement at Great Stubbing and Little Green, with isolated farms such as Brook farm, Hill house and Glebe farm, rather than a single nucleated settlement, as Hesse's hypothesis would predict (Hesse 2003: 45-57).

It is probable that Burgate was Wulfwin's principal residence immediately before the Conquest. As a result, there is a possibility, which cannot be dismissed out of hand, that Wulfwin was the agent who created the earthwork in Burgate. If this were the case, the earthwork may represent a late-Anglo-Saxon *burhgeat* rather than an early-Anglo-Norman castle (Williams 1992: 221-40; Renn 1994: 177-98).

Late Anglo-Saxon pottery fragments have been found in the earthwork bank that surrounds the 14th-century St Mary's Church (TM0875) as well as an Anglo-Saxon brooch found at Stubbings End (TM06307410) (SAUSMR Burgate BUR 001 & 004; West 1998: 14). Other Anglo-Saxon material discovered consists of dress fittings, which are assumed to be casual losses, and include a caterpillar brooch (SAUSMR Burgate BUR 019, TM08307550), strap-end (SAUSMR Burgate BUR 021, TM08307540), bronze brooch (SAUSMR Burgate BUR 022, TM08207550) and disc brooch (SAUSMR Burgate BUR 023, TM08207550). Other archaeology reported in the parish to the Suffolk Archaeology Unit includes an important late Roman coin hoard as well as other finds of coins and pottery (SAUSMR Burgate BUR 002; 006; 008; 011; 015; 020). Finally, Hill house (TM087758) is associated with a group of Iron Age roundhouses (Pevsner and Radcliffe 2000: 128). The distribution of archaeological material suggests that the mid to late Anglo-Saxon settlement was located between Burgate Hall and St Mary's church, with outlying farmsteads and settlements already associated with the greens in the parish.

5.2.5: Anglo-Norman Burgate

At Domesday in 1086 Burgate was held exclusively by Adelelm from Aubrey I de Vere (Table 5.1, Maps 5.13-14; Rumble 1986: 35,5.). The manor was assessed at five carucates (600 tax acres) of arable land, three and half acres of meadow, three ploughs in lordship and ten more ploughs held by the manor's villagers and small-holders. Furthermore, the number of ploughs could be increased to fifteen. This is a relatively large numbers of ploughs and suggests intensive arable farming, probably on the glacial sands and gravel soils of the plateau.

The settlement's Domesday stock included twelve cattle, eighty pigs, one hundred and seventy-six sheep and no less than fifty-seven goats. This was the fourth highest number of goats for any Domesday settlement that later gained a castle and might have been kept on the Common to live off the woodland pasture.

There is no 11th- and 12th-century warren, or park associated with the earthwork. There is a reference c. 1360 to a mini-park one rod in length below the Chancel field, but this was not the property of the lord of the manor. Robert Bellocampo had the right to warren at Higham manor c. 1200, but once again he was not the lord of Burgate (Hill 1932: 33 & 42). However, it should be noted that according to popular legend, the Sycamore tree at the cross-roads close to Hill house farm was once used as a gallows tree (Hill 1932: 55).

The Tithe map of 1840 (Table 5.2) records the field-names Church Field (189), Church Meadow (159), Chancel Field (157), Little Castle Field (190) and Lords Close (156) (SCRO(I). *Tithe Map and Award: Burgate*. 1840. FB 136/C1). These all occur between Burgate Hall and church or between Hall farm and Glebe farm. These field-names, their location, size and morphology suggest an association either with the Hall or church and are here interpreted as manorial 'infield' arable land. By contrast, the Tithe map records twenty-one small fields called 'Pightles'. Some of these are concentrated around Great Green or are associated with individual cottages scattered across the parish. This distribution suggests that not all the small-fields called Pightles could have originally been part of the open field at Burgate. However, a group of narrow strips each covering a little more than an acre occur in a block east of Great Green and are associated with a reversed S-shaped curve boundary. This discrete area is according to the Tithe map delineated on all sides by roads (Maps 5.11-12). To the west of the Mellis-Wortham road it has Beans Lane, to the north it is bounded by the by-way past Brook farm and to the south by a by-way from Hill house to Bean Lane. Only one strip, Knobs Pightle (89), is referred to as a 'Pightle'; the other strips are described as 'The Spong' (57), 'Part of Daws' (58), 'Waevers' (88) and 'Quagmere' (90, 91 & 92) (SCRO(I). *Tithe Map and Award: Burgate*. 1840. FB 136/C1).

It is argued here that these narrow strips, tightly constrained by the road system, are possibly the surviving strips of an open field (Map 5.12). If this interpretation is correct, then the land close to the Hall and the Church constituted a block of the lord's 'infield' located between the moated Hall, the church with its earthwork and Great Green. Here the drift geology comprises of glacial sands and gravels. Furthermore, the second discrete area with evidence of strips on the Tithe map northeast of Hill House, would represent the area of 'common field' associated with the Great Green settlement.

There is a feoffment document from the 13th century witnessed by Robert de Burgate, granting Walter, son of Walter son of Geoffrey de Burgate, a *messuage* in Burgate, including a two and half acre croft and a herbage called *Henedemere*, which unfortunately cannot be identified on the Burgate Tithe map of 1840 (SCRO(I). *Tithe Map and Award: Burgate*: 1840. FB 136/C1). This messuage was held in return for homage and service and a fine of eight silver marks, paying 9d annually and ½d scutage (SCRO(I). *The Iveagh (Phillipps) Suffolk Manuscripts: Burgate*. HD 1538/158/1).

Apart from Robert, the other witnesses signing this document include Adam de Breche and William de Stebbing. This is the first mention of a de Stebbing, a name associated with the moated manor site at Stebbing Entry, where Basil Brown conducted an excavation that produced Early Medieval Pottery (SAUSMR BUR 004; TM06307410). It is possible that the de Stebbings were either a cadet branch or, more likely, tenants of the de Burgate family.

It should be noted that a number of important documents relating to the manor of Burgate from the 13th-16th century are held by the Ipswich Records Office in *The Iveagh (Phillipps) Suffolk Manuscript Collection* relating to Burgate HD 1538/158. Furthermore, there is a collection of one hundred and twenty two documents relating to the manor of Burgate from the mid-13th century to 1487 that was sold by Sotheby's in 1921 and is now held by the University Library Chicago (Farrer 1927: 352-4).

5.2.6: Anglo-Norman lordship, dynasty and agent.

A case can be made for Burgate ring-work to be either a late Anglo-Saxon burgate site or a Domesday-era Anglo-Norman earth and timber castle.

If the former is correct, the site is part of the Anglo-Saxon manor of Burgate held before 1066 by Wulfwin, who is described in the Domesday Book as a freeman, and who also held Aldham manor in Cosford hundred. However it has been argued that it is probable that Wulfwin the freeman and Wulfwin the thegn refer to the same person, in which case the Domesday place-name may have been derived from Wulfwin's *burgeat* (Rumble 1986: 35,1-2. 68,5.; William 1992: 221-40; Renn 1994: 177-98).

If the latter is correct, the site is the Anglo-Norman castle of Burgate held for two knights' fees in 1086 by Adeilm, who was possibly the steward of Aubrey I de Vere (Hall 1896a: 352-3; Rumble 1986: 35,5;7.; Keats-Rohan 1999: 124 & 131-2; 2002: 360; Appendix 16.5.1).

Adelelm made grants to both Hatfield Regis and Colne Priors (Dugdale 1846: 4B 432-5; Fisher 1946: 1-2, 2-3, 5-6, 45-6, 57-58, 58-59, 60-1, 85-6). His lordship consisted of the manor of Burgate with its outliers and two sub-manorial properties in Palgrave and Thrandeston (Map 5.14; Fisher 1946: 5-6, 60-1). In the case of Thrandeston this can have represented the property of Edric the Leech, who was possibly one of the two Domesday freemen Adelelm held there, as an outlier of Burgate, in 1086 (Fisher 1946: 45-6, 85-6; Rumble 1986: 35,5;7.). However, the sub-manorial holding in Palgrave must be a post-Conquest acquisition and was possibly acquired as part of his un-named wife's dowry. The loss of woodland for 60 pigs between 1066 and 1086 in the vill may evidence the construction of the earthwork, and might suggest that a major building project occurred between these two dates at Burgate.

The limited archaeological evidence (NSMR Suffolk 30571; SAUSMR BUR 007), in the form of 'Saxo-Norman' pottery of an 11th-century date, is inconclusive and throws no additional light on the identity of the castle's agent and dynasty. However, as noted above, the earthwork around Burgate church, the evidence of an earlier church underlying the present building and Anglo-Saxon pottery found around the church may suggest an alternative candidate for the Burgate site that gives the Domesday vill its place-name (Appleyard 1931; William 1992: 221-40; Renn 1994: 177-98; Mortlock 1990: 40-2; SAUSMR Burgate BUR 004; West 1998: 14). This would favour interpreting the ring-work as the earthwork remains of an Anglo-Norman earth and timber castle, the agent as Adelelm and the castle's dynasty as the de Burgate family, which held the manor continuously until at least the 13th century (Appendices 16.5.1-4., Map 5.15).

5.2.7: Description of earthwork

The site consists of three discrete but inter-connected areas of earthworks (Map 5.16). 1. A linear earthwork east of the ring-work leading to its entrance. 2. A circular ring-work with a wet moat. 3. A sub-rectangular extension abutting the western side of the ring-work.

5.2.7.a.: A linear earthwork east of the ring-work and leading to its entrance

The survey of the earthwork revealed a raised linear feature associated with the site east of the ring-work (Figures 62, 63). This feature was reported in 1934 by Basil Brown as a small hill, barrow or tumulus southeast of the monument (SAUSMR Burgate BUR 001 & 007). This was noted by English Heritage in 1999: 'A low, causeway-like ridge across the ditch on the opposite side of the enclosure is not associated with any corresponding gap in the inner bank and is unlikely to be an original feature (NSMR Suffolk 30571)'. However, it is argued here that since

this linear feature ends opposite the modern entrance of the earthwork, it is indeed associated with it.

The linear feature is approximately 65m long and 5m to 3.25m wide, narrowing as it approaches the entrance. In its surviving form it is raised from the woodland floor to a height of 0.43m at its western end and 1.38m at its eastern end, and it is noticeably drier than the ground on either side of it. It is off-set from the earthwork entrance and runs northwest from the edge of the woodland ditch to the entrance of the ring-work (Figure 66). The western end of this linear earthwork meets the outer edge of the ring-work's moat obliquely opposite its entrance. Where the linear earthwork meets the eastern edge of Burgate wood it is now truncated by a woodland ditch and internal bank. The woodland ditch is water filled and associated with two ponds southwest of Burgate Hall (TM07857554), which may suggest an outer bailey. The ditch appears to cut through the linear feature where it now terminates and is consequently interpreted as a later feature than the linear earthwork. The excavated upcast from this woodland ditch has been deposited as a bank 0.6m high on the western, Burgate wood side of the ditch, partly obscuring the extreme eastern end of this linear earthwork and again suggesting that the ditch and bank post-date the castle earthwork. Although it is possible that the ponds and length of water filled ditch north and east of the earthwork may have been the edges of the castle's outer bailey, they are more likely to have provided a water-supply for animals grazing on Burgate wood/common and water for Burgate Hall.

Unfortunately, the presence of a large tree, the roots of which disturb the woodland floor at this point, makes it difficult to identify the linear earthwork's function definitively. Although other interpretations are possible, it is suggested here from the evidence of the boggy ground between the earthwork and the eastern edge of Burgate wood that this linear earthwork feature is best interpreted as the remains of a corduroy road leading to the ring-work, a possibility first suggested by Brown. This would have eased access to the damp location and prevented poaching of the ground by the earthwork's inhabitants or their animals. Finally, the linear feature meets the entrance of the earthwork at an oblique angle and appears to be deliberately off-set, possibly as a functional design, in order to prevent the use of the linear feature as a 'runway' for a battering ram.

5.2.7.b: The elliptical ring-work.

The central feature of the earthwork is an elliptical or broadly circular ring-work, approximately 72.5m north to south and 65m east to west from counterscarp to counterscarp (Figures 64-5). The wet-moat is 7m to 10m wide and best preserved on the north and south side of the

earthwork (Figures 65-69). The rampart is 1m to 1.5m higher than the land level surrounding it and keeps a far sharper angle of rest on its exterior (21°) than on its shallower internal scarp (14°). It is noticeable that the northern and eastern ramparts of the earthwork appear more substantial than the southern and western ramparts. The northern rampart has an axis across its base of 20m, whereas the southern and western ramparts have a width of 10m to 11m. It should be noted that the rampart survives to the same height on both the north and south sides of the earthwork, so that the greater thickness of the northern side of the monument cannot be due to any erosion or later levelling of the northern side of the earthwork but is part of the original design. Moreover, there appears to be no mutilation of the southern rampart to suggest that it has been robbed of materials, leading to the tentative conclusion that the different thicknesses demonstrated in the circuit of the rampart may have been part of its original design.

There are both northeastern (Figure 66) and western entrances (Figures 67-69) to the ring-work. The northeastern entrance is larger, at 6m wide, where the moat is 12m across (Map 5.16). This eastern entrance is associated with the western end of the linear feature discussed above, and this is interpreted as the main entrance of the ring work. The western entrance is 3m wide and less eroded, while the moat is only 7m wide at this point.

5.2.7.c: Wet moat

The moat was filled with water for about three quarters of its circumference when surveyed in spring 2003. The width of the moat ditch varies from 7m to 12m around its circumference (Figures 65-69; Map 5.16). The area immediately opposite the modern eastern entrance to the ring-work, where the linear earthwork meets the moat, was muddy yet dry enough to walk across in April, but beyond the edge of the moat the ground was noticeably boggy south, east and west of the earthwork.

The purity of the water in the moat is remarkable, the previous year's leaf mould being clearly visible at the bottom of the moat, although the water appears to vary in depth. However, neither the moat nor the two ponds north of it show any evidence of aquatic flora, suggesting that they might well dry out during the summer. There is a small overflow drainage ditch on the southwestern edge of the moat that allows gravity to drain away excess water from the moat westward down the slope, which suggests that the moat is supplied by some form of land-spring linked to the topographical and geological conditions rather than simply by rain-capture. It would also appear that the moat originally also surrounded the separate sub-rectangular extension abutting the ring-work but now back-filled.

It is suggested here that the moat system surrounded both the ring-work and a discrete raised platform to the west of the moat. This sub-rectangular feature was accessed by an off-set entrance, 3m wide through the western enceinte of the ring-work and surrounded by a narrower extension to the moat.

5.2.7.d: A separate sub-rectangular building platform abutting the ring-work at its western entrance

The narrower western entrance (Figures 67-69) is clearly associated with a distinctive sub-rectangular earthwork west-southwest of the ring-work (Figures 70-72), although the entrance is off-set and accesses the northern quarter of this extension (Map 5.16). This suggests that access was either to the ground floor of a building at the northern end of its east side, or possibly the bottom of an exterior staircase leading to a first-storey entrance at the southern end.

This rectangular building platform is formed by a raised earthwork feature standing 0.4m from the woodland floor, some 6m wide and 16m in length (Map 5.16). It is defined to the east by the main moat surrounding the ring-work, to the south by a shallow and much silted over-flow drain 1.65m wide, and to the west and north by a narrow, shallow and back-filled wet ditch. This rectangular extension to the moat is 2.74m wide on its northern side, which suggests that this sub-rectangular feature was originally also moated. However, the narrowness of the ditches on the north, south and east of this sub-rectangular platform suggests that the purpose of these ditches was primarily drainage rather than defence.

This building platform is accessed by a 3m gap through the western face of the ring-work, which leads to the northerly section of this sub-rectangular platform and was presumably the entrance, although it is not clear if it was at ground or first-floor level. What it does suggest however, is that this sub-rectangular extension was not a fortified gatehouse, as access would have been restricted to a single individual at a time passing through an off-set gap entrance that is too narrow for a horse. In addition, the ground immediately west of the platform is a waterlogged woodland ride and would quickly become poached by human and animal traffic at an active castle or manorial site.

Given that it is thus inappropriate to interpret this sub-rectangular platform feature as a gatehouse this platform cannot be identified as a fortified gate-house associated with a late Anglo-Saxon structure suggested by the evidence of the place-name Burgate (Williams 1992: 221-40; Renn 1994: 177-98). However, the Tithe Map of 1840 records a Burgate Field east of

the Glebe Farm (TM093755), which suggests that such a feature may have existed elsewhere in the parish, although there is as yet no late-Anglo-Saxon archaeological evidence.

The earthwork is interpreted as the platform for some kind of rectangular timber structure, probably a sub-rectangular tower or inner keep or chapel, rather than a small hall attached to the western exterior of the ring-work. The building platform would raise the building timbers above the surrounding damp ground to a height of 0.4m suggesting that earth fast or stave construction technique and that the building was entered by an exterior staircase leading to a first-floor entrance at the north end of its eastern face.

5.3: Pitches, Pythches or Prytche's Mount earthwork, Groton Park, Groton (TL962425)

National Sites and Monuments Record: Suffolk 163

Suffolk Archaeology Unit Sites and Monuments Record: Groton GRT 001

Height above Ordnance Datum: 66m

Solid Geology: Lower Chalk

Drift Geology: Quaternary undivided; chalky, pebbly, sandy clay (Lowestoft till)

Hundred: Babergh

Parish: Groton

Pre-1844 size of Parish: 5.43km²

Modern Local Government District: Babergh

Date of survey: 25-28th March 2003

5.3.1: Location and topography

Groton is a vill recorded in the Domesday Book (Rumble 1986: 1,99. 14,25. 25,50. 76,2.), located in the pays of South Suffolk, close to its interface with the London Clay District (Appendices 4.6 & 8, Maps 3.21; 5.63-5). It located within the double hundred of Babergh, 5.75km northwest of the hundred meeting point at Babergh Place (TL908443) in the neighbouring parish of Great Waldringfield.

Pitches, Pythches or Prytche's Mount are all alternative names given to this circular and ditched earthwork motte, which is scheduled as an ancient monument (Map 5.66). The name is derived from that of John Pytches, the landowner c.1804-1829 of Groton House and Park (NSMR Suffolk 163; SAUSMR Groton GRT 001; Martin 1999d: 58-9 & 196; Appendix 1.14).

An estate map entitled 'Groton House and Stours Farms' of 1798 shows that the earthwork at that time was located on the neighbouring property of Sir William Romley of Tendering Hall, Stoke by Nayland (SCRO(B). *Groton House and Stours Farms Estate Map: Groton*. 1798. 573/3). However, by the time of the Groton Tithe Map and apportionment of 1839 the land on which the unmarked earthwork lay had become the property of Groton House (Suffolk Records Office, (Bury). *Tithe Map and apportionment: Groton*. 1839. T85/1 & 2). It is suggested here that John Pytches probably acquired the land on which the earthwork stands from Sir William Romley c.1783-1829. Unlike other Parks in Suffolk, Groton Park is not recorded on the Hodkinson map of 1783 (Dymond 2003: 4). Therefore, Groton Park was probably created by

John Pytches after his acquisition of the property c.1804, which explains why his name became associated with the earthwork (Map 5.66).

The earthwork is situated just above the 65m contour at the top of a southeast facing scarp (Map 5.67). This overlooks a valley and an area known locally as ‘The Spong’, which is 500m south-southeast and 20m lower than the top of the scarp where the earthwork is. At the Spong the two minor tributaries of the river Box converge (TL964421) and a spring is evidenced further down the valley at Spout Farm (TL965418) (Map 5.64).

Although the area of the woodland containing the earthwork is too small to be recorded on Hodkinson’s map of 1783 (Dymond 2003: 24), it does show two areas of heathland known as Castling and Parliament Heaths north and northeast of the earthwork (Map 5.65). The earthwork’s high location in the topography gave it commanding views of two communications routes, one from Broad Street to Groton (TL974425) and the other from Castling Heath (TL971434) to Groton (Ordnance Survey 1999a). The present Castling’s Hall on Castlings Heath is of 16th-century date (Department of the Environment 1980: 117).

Groton House is located some 200m east of the earthwork and is an 18th-century red-brick Georgian building (Map 5.66; Department of the Environment 1980: 116), 300m east of the road from Boxford. This road crosses the South Suffolk plateau between the ford in the Box river valley (TL963405) and the ford in the Brett river valley (TL946474), passing through Boxford, past the Groton earthwork, before meeting a crossroad and hamlet called Broad Street (TL960430) (Map 5.63). The road then continues north of the cross-roads, passing on to Milding Green, Milding Pound, the village of Milden and finally Wells Hall, Brent Eleigh (SAUSMR Milden 004, TL946474).

The Tithe map shows that the parish of Groton was larger in the past and included most of the modern-day village of Boxford on the north side of the river Box, as well as isolated outliers of the parish within Boxford and south of the river Box (SCRO(B). *Tithe Map and Apportionment: Groton*. 1839. T85/ 1 & 2). It is possible that the loss of these explains why the total area of the parish pre-1844, according to the Victoria County History, was 1571 acres (6.36km²), though the 1st edition of the Ordnance Survey records it at 1560.362 acres (6.31km²) (Ordnance Survey 1893; Minchin 1911: 683).

The modern village of Groton is situated 1km southwest of the earthwork, on a gently sloping south-facing scarp at OD+50-55m. It includes Groton Hall c.1550 and St Bartholomew’s church c.1300 (TL959416), although no church was recorded at Domesday (Map 5.63; Department of

the Environment 1980: 118; Moorlock 1990: 102-3). The northern end of the village is dominated by Groton Place, a 16th-17th- century house and farm (Department of the Environment 1980: 120). Groton village is a linear settlement with regular house plots laid out between Groton Hall and Groton Place on the eastern side of the Boxford road. The parish boundary with Edwardstone runs straight down Boxford road, and thus the modern village is not in the centre but hard against the western border of the parish.

5.3.2: *Environmental resources*

5.3.2.a: *Geological resources*

The parish of Groton is located in the pays of South Suffolk but close to its interface with the London Clay District and demonstrates a complicated geology with geological elements found in both pays (Appendices 4.6 & 8, Map 3.22).

5.3.2.a.i: *Solid geology*

Despite its relatively small area, the parish demonstrates two different types of solid geology (Map 5.68; British Geological Survey 1991). Most of the parish of Groton overlies lower chalk, which occurs to a depth of OD-100m to -110m. However, in the extreme northern part of the parish, beyond Parliament Heath, the solid geology changes from lower chalk to crag at OD+73m (TL960436). The crag stratum occurs to a depth of OD+10m, has a thickness of 30m and itself overlies the lower chalk. Between the crag and the lower chalk is a stratum of lower London tertiaries that is 24m thick at Groton Park. Virtually all the crag is in the north of the parish (Boswell 1929: 8-11, 27-33; Pattison *et al.* 1993: 15-16, 18, 20, 24-9 & 33-4).

5.3.2.a.ii: *Drift geology*

Trist (1971: 11) notes:

‘In Suffolk there is probably a greater variety of soil conditions than found in elsewhere in the British Isles. No district, few farms or even fields on a farm, can be said to have uniform soil texture’.

In the Box river valley and its tributaries the drift geology is a confused mixture of glacial sands and gravels, Kesgrave sands and gravels, head and alluvium. The rest of the parish is covered by a till plain of boulder clay, spread across the upland South Suffolk plateau in a single unbroken sheet, apart from where rivers have cut through it into underlying geological formations (Boswell 1929: 40; British Geological Survey 1991, Sudbury; Pattison *et al.* 1993: 37, 38-48,

49-51). According to Woodland (1946: 9), the boulder clay is exceptionally deep in the district, with depths of 150-230 feet (45.72– 70.1m) being recorded.

According to the scheduling report for the Site of Special Scientific Interest for Groton Wood (TL978433) on Castling Heath, the boulder clay is overlain by a light and freely draining loess (Map 5.68; English Nature 2007a). Some has been deposited by aeolian drift over the boulder clay from the neighbouring pays of the London Clay District, and contradicts the claim that: 'Aeolian deposits are known in neighbouring areas but no mappable deposits have been recognised in the Sudbury district' (Pattison *et al.* 1993: 49).

In the absence of a detailed local geological survey, it is suggested here that this loess extends along the southern edge of this plateau, including the area of the earthwork site, as well as Parliament and Castling heaths. Loess is a glacial deposit and consists of an unstratified sandy silt loam soil deposited in varying thickness but containing clay, which can occur up to 2m in depth in hollows and is free draining (Wooldridge and Linton 1933: 297-310; Hodges *et al.* 1984: 17).

Loess was formerly known as brick-earth, and Woodland (1946: 8-9) reports:

'Spreads of loam and brick earth were also formed at various times, but their size is small, their occurrence sporadic, and their hydrological importance negligible, so no further referring need be made of them'.

As a result, although specific information is scant, it is noted that the drift geology around Groton earthwork is considerably lighter, freer draining and finer on this southern edge of the plateau than the very heavy clay drift found, for example, at Milden on the opposite side of the plateau (Boswell 1929: 34-7; Trist 1971: 19; Pattison *et al.* 1993: 49; Antoine *et al.* 2003: 309-318 & Fig. 1).

Furthermore, there is a discrete roughly circular area northwest of the earthwork, which is excluded from the topographical survey of the earthwork. According to the current owner Mrs Last, this pit, which is partly back-filled with building rubble, was created by 19th-century excavation of sand for Groton House (Figure 113). The Suffolk County Council Archaeology Unit records and Victoria County History both agree that a moat originally existed around the earthwork, which was subsequently destroyed by gravel and/or sand extraction (Wall 1911: 592; SAUSMR Groton GRT 001). This suggests that the drift is not that deep at the top of the scarp where the earthwork occurs and that it was relatively easy to excavate down into the underlying intermediate geology of glacial sands and gravels. It should be noted that a discrete area of glacial sands and gravels is exposed to form the drift geology between the earthwork and the

Spong (Map 5.68; British Geological Survey 1991). This extends under the Lowestoft till on which the earthwork lies, so that at Pritches Mount the drift geology consists of aeolian loess overlying Lowestoft till, which itself overlies an intermediate geological stratum of glacial sands and gravels.

This moat, although much mutilated, is suggested by the western and northern side of the earthwork and is now back-filled with aeolian drift. This ditch was possibly a wet moat, either lined with an impermeable clay soil or excavated into the boulder clay underlying the loess but without reaching the solid geology of glacial sands and gravels beneath.

Additional small outlier patches of glacial sands and gravels occur elsewhere within the parish: under Groton Hall, just south of the St Bartholomew's church (TL960416), and on the far side of the valley of the tributary of the Box southwest of the earthwork (TL959423) (Map 5.68; British Geological Survey 1991).

Finally, where badgers have excavated into the motte they have deposited evidence of the soil matrix from within the motte in their spoil heaps (Figure 112). The soil of the earthwork appears to be a light grey-coloured gritty sandy silt and clay soil, containing a relatively high sand content and quantities of small erratics. The precise type of soil is unclear, beyond a mixture of loess and boulder clay, probably excavated when digging the moat. However, it appears to be Oak 2 Association or similar soil which occurs on flat high ground in South Suffolk and west of Colchester (Hodges *et al.* 1984: 281-4, 238 & Fig. 50).

5.3.2.b: Hydrological resources

According to the Index to the 1st edition of the Ordnance Survey, the 19th-century parish contained an area of 1.081 acres (0.44 ha) covered by water (Ordnance Survey 1896). The annual recorded rainfall is 600mm a year and the chief modern aquifer is chalk, which underlies the whole district and is replenished by water permeating through the strata above it (Pattison *et al.* 1993: 58-9).

The chalk aquifer is deep and can only be accessed by modern boring techniques. Even at 'the Spong' (TL964421) at OD+48.77m in the valley of the tributary of the river Box the chalk occurs at 40m below ground level (Woodland 1942a: 14). Accessing such deep supplies has been problematic in the historic past. For example, a wind-pump is shown on the 2nd revised edition of the Ordnance Survey 1905 map 125m north of the earthwork at (TL963427), although neither Whitaker's nor Woodland's well survey records this. Gimpel (1977: 24-8) has noted that

the newly re-introduced wind-power technology was not yet exploited for water-pumping in 12th-century England.

Loess contains virtually no water and the underlying the boulder clay yields little. Water only occurs where sand-gaults or ‘golts’ trap water, thus creating perched water supplies, although, as Woodland (1946: 8-11, 54) notes, such a supply can easily be polluted by cess pits. It should be noted a discrete area of glacial sands and gravels occurs south of Groton Hall (TL959416) (British Geological Survey. 1991). The location of Groton Hall and the church would appear to confirm Woodland’s (1946: 11) assertion that:

‘There seems little doubt that the sites of many villages in Norfolk, Suffolk and Essex were determined by the ease of obtaining water from these deposits by means of shallow wells deriving supplies of upwards of a few hundred gallons daily’.

5.3.2.b.i: Watercourses

Groton lies in the Stour drainage basin, the nearest watercourse being the tributary of the river Box located some 300m southwest of and 15m lower in the topography than the earthwork (Map 5.69, Appendices 5.1-6). It will be argued below that this stream gave its name to the village. Like all streams and rivers in chalklands, this watercourse is subject to considerable seasonal variation and its upper reaches around Groton may fail completely during the summer (Woodland 1946: 44). This seasonality of water-supply is further emphasised by the recording of a ‘winter mill’ at Domesday in 1086 (Rumble 1986: 14,25.). It is highly unlikely that the tributary or the river Box at Groton were navigable c.1066-1200. However, its fordable points remained important communications nodes.

5.3.2.b.ii: Wells

There are no wells in the parish recorded by Whitaker, the British Geological Survey map or the modern Ordnance Survey map (Whitaker 1906; British Geological Survey. 1991; Ordnance Survey 1999a). Woodland’s (1942a: 70-71; 75) wartime survey noted five wells in the parish (Map 5.69). Three of these are modern, being bored and lined, at:

- Moat Farm (TL964435) at OD+250 feet (76.2m) and bored 246 feet (75m) deep.
- ‘The Spong’ (TL964421) at OD+160 feet (48.77m) with rest water level of 16 feet (4.88m) and bored 170 feet deep (51.82m).

- The modern council houses (TL973427) at OD+210 feet (64m) with rest water level of 65 feet (19.8m) and bored 240 feet deep (73.1m).

There are also two wells, at:

- Groton Place (TL957421) at OD+190 feet (57.91m); with a rest water level of 38 feet (11.58m) and a shaft 42 feet deep (12.8m).
- Castling's Hall (TL971434) at OD+220 feet (67m); the original shaft was 68 feet (20.73m) deep but this has now been bored deeper and lined, with a modern rest water level of 85 feet (26m) and a bore 250 feet deep (76.2m).

These wells were sunk not into the principal chalk aquifer but through boulder clay into the underlying glacial sands and gravels, in order to access the perched water supply. For example, at Castling's Hall the glacial sands and gravels form a 62 feet (18.9m) thick stratum at a depth of 68 feet (20.73m). At Groton Place the same geology occurs 38 feet (11.58m) below the surface. Significantly both Groton Hall and the church are located next to an area where these underlying glacial sands and gravels are exposed to form the drift geology. It is suggested that the double advantage of good drainage and a perched water-table made these favoured settlement locations in the historic past (Boswell 1929: 64-5; Woodland 1942a: 71 & 75; Pattison *et al.* 1993: 58-9). It is anticipated from the evidence of the British Geological Survey map and Castling's Hall well that the glacial sands and gravels under the drift geology of Lowestoft till was a suitable geology to extract water from a perched water-table by means of a shallow well, and it is possible that the earthwork was supplied from an internal well. However, only excavation of the site will determine the presence of a well or a cistern within the motte.

5.3.2.b.iii: Ponds

There are fifty-seven ponds recorded in the parish, giving the modern civil parish of Groton a density of 9.1 ponds per km², higher than the average for the natural area of High and South Suffolk of 7.7 per km² and more than double the mean density of ponds in Babergh local government district (Sibbert 1999: 13, 15 & Table 5).

However, only four ponds occur within 1km² of the earthwork, because of the low settlement density on the free-draining loess soils of the heathland in the vicinity (Map 5.69). This means that, unless a pond is clay-lined, any water would simply drain away. For example, Moat farm is a moated site recorded by the archaeology unit in the parish at TL969441, but it does not have a

wet moat today (SAUSMR Groton GRT 002). However, the Tithe Map of 1839 shows a large pond, now back-filled, just northeast of and possibly another south west of Groton House (Map 6.69). This appears to have been an additional source of water-supply in the historic past some 400m west of the motte (SCRO(B). *Tithe Map and Apportionment: Groton*. 1839. T85/1 & 2).

5.3.2.b.iv: Springs

Following inquiries from Mrs Last and present residents of Groton Hall, it was established that in the historic past Groton Park House is believed to have had its own water-supply. This was probably in the form of a now lost land-spring, fed by water draining off the boulder-clay till-plain plateau north of the earthwork and possibly associated with the glacial sands and gravels intersecting the slope of the topography (Mrs Last pers. comm.). Such a supply was limited and had a seasonally variable yield. The precise location of this water-supply is unknown, but Groton Park House is 200m west of the earthwork, 5m lower in the topography and therefore cannot be associated with the earthwork.

Spout Farm is modern and not shown in Hodkinson's map (Dymond 2003: 24), although a track is shown leading down from the village to the chalk spring (TL964417) (Map 6.69; Woodland 1946: 43-44; Ordnance Survey 1999a). This was the village's principal local water-supply in the past and remained, with the associated watercourse, an important local water-supply for stock.

To summarise, unlike other castle sites in the survey, there is no obvious source of water-supply close to the earthwork at Groton. The location of the earthwork at the top of a scarp on relatively permeable loess covering the boulder clay would suggest that any wet moat, unless excavated down to or lined with impermeable clay, would not have been capable of holding water. Unfortunately, the mutilated and back-filled nature of the earthwork's moat means that it is impossible to establish its construction without excavation. The lack of a water-supply outside of the Brett river-valley made man-made smaller ponds absolutely essential for providing water-supply for both domestic needs and stock, despite some of the drift geology of the parish not being ideal for excavating wet moats.

As a result of this problem of water-supply, it is argued here that the design for Groton castle deliberately addressed the lack of a suitable water-supply. The earthwork was designed to capture rainfall and feed it into either a clay-lined moat or an internal cistern within the earthwork. Such a method is suggested by Beresford to explain the large square excavated 'basements' found underneath the central tower at both South Mimms and Goltho (Beresford

1987: 103-4). The excavators Higham and Barker identified cisterns underlying the keep of the earth and timber castle of Hen Domen (Pit 68) and a second within the bailey (Pit 828) (Higham and Barker 2000: 41-3 & 67-68). However, given the glacial sands and gravels underlying the Lowestoft till at Groton, it is suggested that such a cistern would have had to be shallow or lined in order to retain water within it.

Furthermore, it is argued that, like South Mimms, Groton's design has a drainage problem, with regard to rain falling on the expanse of wooden flooring covering the top surface of the earthwork between the central tower and the edge of the motte. It is possible that the wooden flooring had guttering or drainage channels built, so as to direct water from the top surface of the motte into a cistern or a clay-lined moat that functioned as a reservoir. Woodland (1946: 10) notes the frequency of this method of supply in Suffolk in the historic past:

'In the days before boring became relatively common, and therefore the existence of piped water-supply on the boulder clay plateau, but these were so unreliable that they generally had to be augmented by tanks catching rain water from the roofs and by ponds'.

The presence of the roof-tile fragment is important in this context, as peg roof tiles were found during the excavation of South Mimms (Kent 1968). A thatched roof is vulnerable to fire, soaks up rainfall, pollutes the run-off with debris and is difficult to channel into a water-butt or cistern. Wooden shingles were more fire-resistant than straw, but wood also soaks up water so that it swells and splits, while various insects make their homes in it and shingles have a high maintenance cost in replacements and painting. Tiles by contrast are completely fire-resistant, shed water efficiently, do not need replacing as often as shingles and are relatively effective in capturing any run-off and funnelling the supply into a water storage facility.

Finally, it is argued here that the decision of Adam I de Cockfield to shift his caput from Groton Park to Lindsey was because he held the principal manor in the vill and this new site offered a superior water-supply at a lake-side location (TL978444) (NSMR Suffolk 49).

5.3.2.c: Historic timber resources

The Suffolk Archaeology Unit's Sites and Monuments Record records three areas of ancient woodland in the parish, Winding and Mill woods, located 1600m west of the earthwork, and Groton wood, discussed below (SAUSMR Groton GRT 009, 008 & 010, TL952432, TL953429 TL978432; English Nature 2007a). However, the Tithe Map c.1839 shows that there was considerably more woodland in the parish in the historic past, mainly concentrated in the north and northeast of the parish on Parliament and Castling's heaths. This included: Grove, Brook, Parsons, Glebe, Thurlow, Acre and Bull's Cross woods. Apart from the last, none of these areas

of woodland were large enough to be recorded by Hodskinson in 1783 (SCRO(B). *Tithe Map and Apportionment: Groton*. 1839. T85/1 & 2, Dymond 2003: 24).

Rackham has identified Groton wood (TL978431) as an intact 47.8 acres (0.19km²) of medieval woodland (Rackham 1999: 64-5). This is located 1.5km north-northwest of the earthwork. Groton wood is a Site of Special Scientific Interest (English Nature 2007a). According to its scheduling documents Groton wood has a medieval core of mainly birch *Betula pendula*, ash *Fraxinus excelsior* and lime *Tilia cordata*, coppiced woodland typically associated with acidic loess soils. To this core has been added post-medieval secondary woodland of coppiced oak *Quercus robur*, hazel *Corylus avellana*, ash and frequent examples of wild cherry *Prunus avium*. Elsewhere in the wood ancient indicator species such as dogwood mercury *Mercurialis perennis* occur as well as rare species of woodland flora such as violet helleborine *Epipactis purpurata*, stinking iris *Iris foetidissima*, herb paris *Paris quadrifolia*, wood spurge *Euphorbia amygdaloides* and wood ruff *Galium odoratum*.

At Domesday Groton's manor was held by St Edmund and its *demesne* woodland was recorded at ten pigs (Rumble 1986: 14,25.). It is suggested here that Groton wood was probably the *demesne* wood mentioned in the Domesday Book and the source of much of the timber used in Groton earthwork, although other sources of timber were probably available locally. In addition, if the earthwork at Groton was built by Adam I de Cockfield while he was an active agent of the Abbey of Saint Edmund, he would presumably also have had access to other local timber resources owned by the Abbey.

From the time of the Groton Tithe map of 1839 the earthwork has been located in a small discrete area of woodland, as shown surrounding the earthwork from 1798 to the present day (SCRO(B). *Groton House and Stours Farms Estate Map: Groton*. 1798. 573/3; SCRO(B). *Tithe Map and apportionment: Groton*. 1839. T85/1 & 2; Ordnance Survey 1891: *Suffolk Sheet LXXIII SE*; Ordnance Survey 1999a).

Today this woodland consists of mixed deciduous broad leaf trees, mainly immature sycamore *Ficus sycomorus* and oak with some elder, *Sambucus Nigra* and a plantation of non-deciduous scots pine *Pinus sylvestris*. These trees are concentrated in a dense plantation to the south and south-southwest of the earthwork, although some exist on the top of the motte. Beyond the plantation is a steep sloping grass pasture leading down to 'The Spong' (TL964421). This tree cover makes the earthwork difficult to photograph. In spring the light is too poor and during the summer the earthwork is in the shade of the canopy. However, the advantage is that, apart from

nettles *Urtica dioica* and some bramble *Rubus fruticosus*, the earthwork is relatively free of ground cover.

There is additional woodland and evidence of the relic of a hedge-line along the eastern boundary of the wood and a wire fence. The hedge-line is evidenced by thinly distributed, older hawthorn *Crataegus monogyna* stools and patches of bramble. On the eastern side of the motte there are two modern horse jumps, created c.1992 using earth and telegraph poles by Groton Park farm, which now runs a riding school, offers stabling and rents pasture. One jump is immediately west of the earthwork, located within what is interpreted as the surviving ditch surrounding the motte, and the second is at the top of the counter-scarp of this ditch (Figures 104,105).

The north side of the motte has a small area of mixed deciduous and conifer woodland, which opens out onto a flat South Suffolk plateau that was in 1783 called Parliament and Castlings Heaths. This is still under grass rather than arable, has few hedges and is currently being used as horse-pasture by Groton Park.

5.3.3: Anglo-Saxon Groton

West records no Anglo-Saxon archaeology in the parish, nor do the Suffolk Archaeology Unit's Records for Groton (West 1999; SAUSMR Groton GRT 01-012). However, the name of the village is interpreted as being derived from an adjective OE **groten* (from OE *gr(e)ot* 'gravel') + OE *eā*, giving the topographical place-name 'a sandy or gravelly stream' (Watts 2004: 264).

Before 1066 the manor of Groton Hall was held by St Edmund's Abbey and managed by the Abbey's manorial reeve. This manor consisted of one hundred and eighty acres in lordship with a further one hundred and ninety acres held by fourteen freemen (Rumble 1986: 14,25.). In addition, eight villagers and five small-holders were attached to the manor of Groton Hall. Amongst the freemen was probably Wulfric of Groton, who owned property at Groton and Bury St Edmunds later acquired by Adam I de Cockfield c.1121-1135 (Douglas 1932: 119-21).

The open field of Groton manor can be identified from the Tithe Map of 1839 in a discrete area located immediately south of the lane between Groton Hall and Horner's Green. This is bounded to the west by the modern road from Groton Hall to Boxford Bridge and to the east by Butcher's Lane (Map 5.71). The field-names within this area include Hall Field, Pound Field, Hog Vent, Horn's Greenfield, Horn's Green Meadow, Lower Clampings, Upper Clampings, Green Yard, Town Field, Home Field and the Croft. East of the Boxford road were two further

fields, Groton and Parsonage Field, between the road and the parish boundary; these were also probably part of the open field of Groton (Map 5.72; SCRO(B). *Tithe Map and Apportionment: Groton*. 1839. T85/1 & 2). It should be noted that these fields overlie a south-facing slope with exposed patches of glacial sand and gravel drift and therefore have some of the better drained soils in the parish (Map 6.68; British Geological Survey 1991).

A second group of four sokemen at Groton formed an outlier of the manor at Great Cornard. This was held in 1066 by Aelfeva, the mother of Earl Morcar and wife of Earl Algar. Aelfeva's holdings formed a group of valuable estates centred upon the borough of Sudbury (Map 5.73; Rumble 1986: 1,99.). Cornard and the outlier at Groton were valued at £10, Sudbury £18 and Brandeston £5 in 1066 (Rumble 1986: 1,93;97;98. 16,10.) However, as it is unlikely that Lady Aelfeva ever dwelt at Groton, she is highly unlikely to have been the agent of the earthwork at Groton.

Two additional freemen are recorded, one held by Withgar and the other not, as a post-Conquest hundred court later testified in the face of claims by Withgar's successor Richard fitzGilbert (Rumble 1986: 25,50. 76,2.).

The morphology of the settlement in 1783 also showed a linear settlement north of the church with numerous out lying isolated settlements within the parish, for example, at Broad Street (TL961431), Groton House (TL961427), Groton Place (TL957421), Horner's Green (TL965417), Gosling Green (TL973425), Moat Farm (TL964435) and Castling's Hall (TL971434) (Maps 5.63 & 65; Dymond 2003: 24). The Groton 2000 millennium local history committee report is entitled '*Groton: a Garland of Hamlets*' (Shaw 2000). The dispersed character of settlement at Groton and large free population at Domesday supports Mary Hesse's hypothesis (Hesse 2003: 45-57).

5.3.4: Anglo-Norman Groton

At Domesday the manor at Groton was held by the Abbey of St Edmund (Rumble 1986: 14,25.). However, other members of the new Norman elite now held sub-manorial property within the vill. These included William the Chamberlain and Otto the Goldsmith who held, on behalf of the King, an outlier at Groton attached to Cornard manor. In addition, Richard fitzGilbert held a single freeman in *desmesne* and Roger of Orbec held a second freeman in *mesne* from Richard (Rumble 1986: 1,99. 25,50. 76,2.; Keats-Rohan 1999: 320-1, 363-4, 406, 468).

St Edmund's manor consisted of one and a half carucates (180 taxable acres) of arable, with one plough in lordship and two held by the manor's eight villagers and five small holders. The livestock included a horse, six cattle, sixteen pigs, thirty sheep and one acre of meadow in lordship. There was woodland for ten pigs and a winter mill. Curiously for Suffolk, there is no church recorded at Groton, either because it was absent, or because it was tax-exempt for some reason and therefore not recorded in the Domesday Book. However, there is evidence that St Bartholomew's church and its parson were in receipt of grants of land within the village, with the Tithe Map in 1839 recording Parsonage Field, Church Field, Glebe Wood and Parson's Wood (SCRO(B). *Tithe Map and Apportionment: Groton*. 1839. T85/1 & 2).

Attached to the manor were the two other holdings. The first consisted of two freemen who held sixty acres, with six small-holders, and the second of twelve freemen with one carucate (120 taxable acres), over whom St Edmund exercised *sac* and *soc*. The whole of this manor was valued at £3.0.0, with a tax area of seven furlongs by four furlongs, and it paid 7d tax (Rumble 1986: 14,25.).

The Feudal Book of Abbot Baldwin (c. 1065-1098) confirms the Domesday evidence recording one and a half carucates of land, eight villagers, fifteen small-holders and thirteen freemen, with another 1½ carucates of land at Groton (Douglas 1932: 5). Richard fitzGilbert held a single freeman with ten acres of land worth 20d. He also held another freeman with one smallholder, sixty acres of arable and one acre of meadow. Although it had no plough, one could be restored and the whole was worth 18 shillings. This had previously been held c. 1066-1086 by Robert son of Wymarc (d. post 1086), the father of Swein of Essex (Keats-Rohan 1999: 424). On Robert's death the holding was claimed by both Roger of Orbec and Richard fitzGilbert. This dispute was resolved when the hundred ruled that Richard's predecessor had never held this freeman and a compromise was reached, with Roger of Orbec holding the property from Richard (Rumble 1986: 76,2.).

The Domesday evidence suggests that the population of twenty freemen and sokemen in 1086 worked 350 acres of arable between them, compared with one hundred and eighty acres held by the manor in lordship. The free population represented 47% of the settlement's population, which suggests a relatively small amount of manorial 'inland'. As a result, only one plough team existed directly attached to the manor, whereas between them the rest of the population possessed four plough teams. This gives the distinct impression that the free population dominated the community at Groton, although many owed *sac* and *soc* to St Edmund.

The first charter granting Adam I Groton and Semer states that a single food-ferm was paid for Groton and cash rent for Semer. Groton paid to the Cellarer of St Edmund's Abbey in the second quarter of the year a food-ferm consisting of corn, barley and oats for brewing, whereas Semer's cash rent, paid to the Pittancer at the Abbey, was to provide pittances or 'treats' for the monks of St Edmund's Abbey. The rent for Semer increased rapidly in the second half of the 12th century, with Adam I paying £5 c.1140, Robert I £10 after c.1150 and Adam II £12 c.1190-8. This is interpreted as evidence of inflationary pressures at work in the late 12th-century economy (Douglas 1932: 120-1; Davis 1954: 1 & 127-8; Greenaway and Sayers 1998: 122-3).

The open field (Maps 5.71-2) associated with the manor of Groton identified above appears to have been under arable c.1191 and the Kalendar of Abbot Samson records that an early and highly developed form of crop rotation was practiced;

'the lands in *demesne* very well sowed with wheat, rye, and barley, that is, each culture according to its time, and the lands which ought to be fallow, very well fallowed and restirred' (Davis 1954: 127-8; Hallam 1988b: 277).

According to documentary evidence from St Edmund's Abbey, the Danegeld in Babergh double-hundred was by c.1186-8 collected by each Ferdling (quarter of a Hundred). It also informs us that Groton was divided between 'Groton', held by '*Ade Conledon*' (Adam II de Cockfield?) and 'Groton of the Monks', held by William of Boxford and an unidentified *Algari*. The Danegeld payment was still 7d a hundred years after Domesday. However, there was also an unknown contribution paid by the outlier at Groton towards the 10½d paid in Danegeld by Great Cornard manor (Davis 1954: xxiv).

In c.1156-1180 Abbot Hugh granted to Henry the Clerk the *stafacra* of several villages in Babergh double hundred, including Groton. Unfortunately, what kind of holding a *stafacrum* represented is unknown (Douglas 1932: 120-1). Finally, the last grant of Semer and Groton to Adam II also includes an inventory of the holdings, goods and livestock held by the manor at Groton at the end of the 12th century (Davis 1952: 127-8).

5.3.5: Anglo-Norman lordship, dynasty and agent

The de Cockfield family held no manors at Domesday and their rise to local prominence appears to have occurred in the 12th century (Map 5.74; Table 5.3). The evidence would appear to suggest that Adam I de Cockfield (d. c.1155) established the dynasty's fortune (Douglas 1932: 110n.; 112-3; 115-6; 120-1; Blake 1962: 120-1, 131n. & 274n.; Keats-Rohan 2002: 405-6; Appendices 16.7.1-5, Map 5.75). William of Diss explicitly states that Adam held Lindsey castle and, it is argued here, was almost certainly the agent of the construction of the Groton

castle before the mid-12th century (NSMR Suffolk 163; SAUSMR GRT 001; Greenaway and Sayers 1998: 122-3; Figure 113). However, it should be emphasised that William of Diss's note about Adam's castle at Lindsey and the one hundred and forty foot tower is written in the past tense, suggesting that neither of these structures was still standing when he was writing at the end of the 12th century (Greenaway and Sayer 1998: 122-3). William of Diss acknowledged that Adam I's castle at Lindsey pre-existed the local conflict that he records, but he carefully did not describe the earthwork at Groton as a castle or Adam's property as a *manerium* or manor but as 'the large *messuage*' where the '*aula*' (hall) of Adam I of Cockfield formerly stood, with its wooden belfry 140 feet high '*cum berefrido ligneo septies xx. pedum in altitudine*' (Butler 1962: 139; Greenway and Sayer 1989: 123). It is argued here that neither bell nor tower were primarily symbols of lordship but rather practical and functional defensive features. It is suggested here that Groton castle was Adam I's first *caput* castle, built on his *messuage* outside of the vill, which he acquired by purchase and inheritance before the Abbey of St Edmund subsequently granted him the manor of Groton and perhaps created the manor of Lindsey for him (Douglas 1932: 120-; 123-4; Greenaway and Sayers 1998: 122-3). Around 1121-48 the abbey granted him the manor of Lindsey, where he subsequently relocated his *caput* castle. This relocation occurred because Adam I now exclusively held Lindsey manor, which was situated next to a lake and was superior in terms of water-supply to the less reliable and seasonably variable cistern supply at the earlier castle site at Groton. Groton was Adam's earlier estate centre, where his '*aula*' was, but later in his career that site was superseded by Lindsey, which was a better fitted location for constructing a *caput* castle in terms of the hydrology of the site (Figure 115).

5.3.6: Description of earthwork

The survey has demonstrated that the earthwork is located on a slope of 0.4° on a north to south alignment.

5.3.6.a: The motte

The earthwork consists of a circular motte with remarkably steep 4m high sides and an almost flat top. The diameter of the top of the motte is 38m and the diameter of the bottom is 46m, which means that the surviving angle of rest of the motte is 32° to 42° (Map 5.76).

The motte is impressive, with its northern and western sides in particular retaining the original and artificially sharp slope of rest (Figures 105,107). The top of the motte is flat apart from a narrow 'lip', best illustrated around the southern edge (Figure 111). This 'lip' is approximately 0.3 to 0.4m high and 0.3m wide, which has the effect of making the surface on the top of the

motte surface slightly lower than the top of the slope of the exterior surface of the earthwork. It is believed that this 'lip' has been caused by the partial slump of the motte earthwork into the large trench apparently cut through the earthwork motte (Figures 107-110). This linear feature is 23.5m long cut from a point on the north-northeastern face of the motte, where it is 7.5m wide (Map 5.76; Figure 107), to the precise centre of the earthwork and here the trench narrows to 7m in width (Figure 110). This linear feature terminates in the centre of the motte where a pit occurs with a 9m diameter and with a depth at the centre of 1.42m below the surface of the top of the motte (Map 5.76; Figure 109).

The Victoria County History suggested that this feature was evidence of antiquarian excavation rather than a feature of the earthwork (Wall 1911: 592). English Heritage Sites and Monuments and Suffolk Archaeology Unit records have until c.1986 interpreted this excavation as a robber trench cut through the monument, which was never properly back-filled and allowed to fill from natural drift of the woodland humus. However, in 1986 Francis Healy, the English Heritage Field Monument Warden, suggested for the first time that this linear feature might form part of the original structure of the motte and should no longer be interpreted as a robber trench (NSMR Suffolk 163; SAUSMR Groton GRT 001). If that is the case the roughly square pit at the centre of the motte is interpreted as the archaeological remains of a central tower (Figure 109), as evidenced at South Mimms and Goltho (Figures 14-15, 17-18). At South Mimms the tower was estimated to be 65 feet (19.8m) high, the width of the base of the square central tower was 35 feet (10.67m), the tower's upright posts were tapered at an angle of 80° and accessed by means of a timber, wattle and clay-lined entrance tunnel through the motte some 25 feet (7.9m) long (Davis 1937: 464-71; Renn 1957: 1-4; Kent 1961: 318; Kent 1963: 322; Kent 1964: 255; Kent 1968; Beresford 1987: 85-106; Higham and Baker 1992: 279 & 282-3).

The previous interpretation of the linear feature as a robber trench is firmly rejected here in favour of Dr Healy's suggestion. The survey found absolutely no evidence of a spoil heap from such a large excavation, nor is there any documentary evidence suggesting that antiquarian excavations had occurred on the site. It is argued here that a better interpretation of the evidence of the earthwork's morphology is that it is the remains of a collapsed tunnel entrance, leading from the exterior of the motte to the base of a now lost central timber tower. From the evidence of the earthwork's morphology it is argued here that the design of Prytche's Mount earthwork at Groton is identical to that of the motte and tower of South Mimms castle in Hertfordshire (now in Middlesex), excavated by Kent and interpreted by Renn (Davis 1937: 464-71; Renn 1957: 1-4, Kent 1961: 318; Kent 1963: 322; Kent 1964: 255; Kent 1968).

If this is the case it would be anticipated that the central tower was located over a rectangular excavation interpreted by Beresford as a cistern (Beresford 1987: 103-4). The timber upright posts of the earth and timber keep at South Mimms were not simply earthfast but set upon flint footings to protect them and increase the longevity of the structural timber of the tower. It is presumed that a similar method was used at the tower of Groton motte. In addition, South Mimms was not constructed directly on the solid geology of chalk, but the turf was carefully stripped from the site and the earthwork constructed on a 2.8m deep drift geology of loam. Sectioning of the earthwork at South Mimms established that the stratigraphy of the earthwork motte had been laid down in even layers, and care had been taken for the enceinte not to put pressure on the timber superstructure (Kent 1968).

The foot of the motte at South Mimms was supported upon a foundation bank of packed clay and flint 20 foot wide (6.1m), 4 feet high (1.22m) and 90 to 100 feet (27 to 30.5m) in diameter, which helped to prevent slippage from the motte into the surrounding moat and acted as a foundation for the timber shuttering that surrounded the motte (Kent 1961: 318; Kent 1963: 322; Kent 1964: 255; Higham and Barker 1992: 279).

On the southwestern face of the motte there is evidence of an active badger sett. In the badger's freshly excavated spoil heap archaeological material was found in the form of a small 3.5mm x 2.5mm fragment of what appears to be 1.75mm thick medieval or post-medieval earthenware roof tile, which had clearly been recently excavated by the badger from within the earthwork. As this fragment of tile was found on a scheduled ancient monument it had to be left *in situ* and is unfortunately now lost. The photographs taken of this fragment *in situ* were also lost, due to camera failure.

The tile fragment did not appear to be Roman, nor are any Roman sites reported in the parish. It is unlikely to be Anglo-Saxon because of the absence of Anglo-Saxon finds in the parish (West 1999). It could be post-medieval but, due to its location, that would be unlikely. As the fragment was excavated by the resident badger from deep within the matrix of the earthwork, it would appear reasonable to associate it with the earthwork. Furthermore, because the badger sett is old and extensive, it is argued here that this may well be associated with the feature that survives as the central pit in the middle of the motte at the end of the linear feature, which is interpreted as a subterranean entrance tunnel to access the central tower. It is argued here that this central timber tower may have had a red earthenware tiled roof and that the tiles were similar to those tiles archaeologically evidenced at South Mimms Castle and illustrated in its reconstructions (Kent 1968; Davison 1986: 105; Kenyon 1996: 22).

5.3.6.b: *The ditch*

A ditch around this earthwork motte is implied by the morphology of the earthwork immediately to the north and west (Map 5.76; Figures 104-6). The ditch is barely discernable to the east of the motte and completely obliterated to the south.

The Suffolk Archaeology Unit Sites and Monuments Record and the Victoria County History both claim that the ditch was ‘destroyed by digging for gravel’ (SAUSMR: Groton 1; Wall 1911: 592).⁹ This is demonstrated today by a confused area of disturbed ground, modern brick rubble and other building debris located in a pit on the northwest of the motte (Figure 113). The area of the gravel excavation has been excluded from the survey for obvious reasons, whereas the area of the horse jumps has been included (Figures 104,105).

The northwestern quarter close to the entrance most clearly shows evidence of the survival of a ditch. The Victoria County History stated that its northern counterscarp was recorded as being 4 foot 9 inches (1.45m) in depth, and the survey shows that the width of the ditch at this point is 13m (Walls 1911: 592). However, at South Mimms the ditch was noticeably narrower at the entrance tunnel of the motte, being 25 feet (7.62m) wide and 12 feet (3.66m) deep (Kent 1968).

The 2nd revised edition of the Ordnance Survey records two small unidentified square structures of indeterminate purpose, which are located close to the earthwork and over the anticipated ditch opposite the southwestern face of the motte (Ordnance Survey 1905: *Suffolk Sheet LXXIII SE*). However, these structures no longer exist and there is no evidence at the site indicating their location or purpose.

5.3.6.c: *The talus*

The talus is best preserved on its western side of the motte, where it is possible to see that the ditch is set 2.7m away from the motte (Map 5.76; Figure 105). This has created a gently sloping talus, the purpose of which was to prevent the earthwork motte slipping into the ditch. At South Mimms the talus survives as a 5 foot (1.5m) area between the foot of the motte and the scarp of the ditch. However, in Kent’s reconstruction the talus may have been surrounded by a timber wall, as flint footings are evidenced at the top of the scarp of the ditches at South Mimms (Kent 1961: 318; Kent 1968; Higham and Barker 1992: 279).

⁹ The current owner of the earthwork, Mrs Last (née Dawson), informed me that the pit was the result of the digging for gravel and sand for use on the estate in the historic past and was later back-filled with the rubble. It should be noted that Mrs Last’s family owned Groton House and Park from the early 19th-century until recently.

5.4: Foxburrow Hill, Hall Farm, Milden Hall, Milden (TL950461)

NSMR: Suffolk 111

SAUSMR: Milden MDN 003

Height above OD: +73m

Solid Geology: Chalk

Surface Geology: Glacial Sand and Gravel

Hundred: Babergh

Parish: Milden

Pre-1844 Parish size: 6.36km²

Modern Local Government District: Babergh

Date of survey: 12th – 16th March 2001

5.4.1: Location and topography

Milden earthwork (Appendix 1.20) was originally surveyed as part of my unpublished Master's dissertation. It was the study of this earth and timber site that indicated that the current theoretical frameworks applied to castles were inadequate. Moreover, the striking geology and hydrology of the castle's location provided the first clues to the greater importance of environmental factors over social factors in influencing the location and morphology of earth and timber castles.

Foxburrow earthwork at Milden is believed to have been a castle in the mid-12th century, as Jocelin of Brakelond records a castellan, W. of Milden (Butler 1962: 137-8; Greenaway and Sayer 1998: 122-3). It survives as a small mutilated motte and bailey earthwork (Figures 130-1) constructed on a gently southwest facing slope (TL950401) at the top, OD+73m, of a shallow valley (Maps 5.77-81); Dymond 2003: 24). This shallow valley drains water from the plateau south of Milden down the north-facing scarp into the larger river valley down which flows a tributary of the river Brett (Figures 116, 129).

The motte is located close to the bottom of this shallow valley, which is associated with a flat, wet and lower-lying area of ground immediately west of the motte (Maps 5.79-8). At the top of the slope opposite Milden castle is the present mid-16th-century Milden Hall (Figures 119-20), 550m west-southwest of the earthwork (TL944463) (Copingier 1905: 158-160; Department of the Environment 1980: 261).

The castle earthwork is situated in the 4.058 acre (1.642 ha) Foxburrow Field (Figure 130), the western half of which forms the area of the Scheduled Ancient Monument Milden Castle (NSMR Suffolk 111; Map 5.80-1), while in the eastern half the survey identified two new archaeological features. Foxburrow Field's western half was under pasture and was occasionally used for stock before the foot and mouth epidemic of 2001. The eastern part of Foxburrow Field was until recently under plough, but has subsequently been set aside. The northeastern area of the scheduled monument remains partly obscured by blackthorn (*Prunus spinosa*), which is used as cover by farmland bird species but also prevented this area of the earthwork from being surveyed.

The northern (Figures 134, 136) and southern (Figure 142) boundaries of Foxburrow Field are marked by modern drainage ditches and modern wood and wire fencing as well as substantial surviving, ancient mixed-species and relict hedge-rows. The southern boundary of Foxburrow Field is a modern field-drainage ditch, and the 1st edition Ordnance survey shows a foot-path running down the other side of the southern boundary from Milden village towards Milden Hall (Ordnance Survey 1891: *Suffolk Sheet LXXIII NW*).

The western boundary of the field is marked by a modern wood and wire fence with no hedgerow and the gate into the eastern half of Foxburrow field (Figure 142). The eastern boundary is marked by a wire fence and the occasional bramble and hawthorn tree suggests a relict hedge-row (Figures 137, 140-1). An earlier ditch survives at the southern end of this boundary, but the rest of its length is unknown due to its destruction by gravel excavation.

According to the index of the 1st edition of the Ordnance Survey maps of Suffolk, the parish of Milden consists of an area of 1342.737 acres (5.43km²) (Ordnance Survey 1893). This is smaller than the pre-1844 parish area of 1571 acres (6.36km²) (Minchin 1911: 683). Before the Dissolution it was located in the Liberty of St Edmund and in Babergh Hundred (Martin 1999b: 26-7 & 193).

The motte is located 1000m southwest of the parish Church of St Peter's (Figures 117-8; Map 5.77). This is a small flint, rubble and lime-mortar Norman church (Mortlock 1990: 164-5; Barlow 1993). According to the Domesday Book, this was held by the lord of Milden and had fifteen acres of land attached to it, of which ten acres were farmed by a freeman (Rumble 1986: 41,10.). The original church tower was struck by lightning in 1827 and demolished for safety reasons in 1840 (Pevsner and Radcliffe 2000: 363).

Immediately east of the survey area is a row of modern houses constructed just off Powney Street, named after either Edward Penton Powney (c.1885-1890) or Major Cecil Du Pré Penton Powney (after c.1890) who were successive lords of Milden manor (SAUSMR Milden MDN 003). Powney Street is the principal north-south communications route of the village. Although it has houses along its course today both the Tithe and Hodkinson's maps suggest that most of these are post-19th century (SCRO(B). *Tithe Map and Apportionment: Milden*. 1840: T36/1 & 2; Dymond 2003: 24). Hodkinson's map also shows Milden Green further down Powney Street beyond the 17th-century Milding Pound cottages (Map 5.79; Department of the Environment 1980: 262). Today the only habitation at Milden Green is 'The Plough', a timber-framed private house (TL955453).¹⁰ Powney Street runs from Brent Eleigh (TL942483) across Parliament Heath via Groton to Boxford, where it crosses the river Box (TL963403; Maps 5.79, 5.65).

Northeast of the castle is a cross-roads where Powney Street meets Church road (TL953463; Map 5.77). Today most of the modern village of Milden is located on Powney Street, between the cross-roads on Church Road and Pound Farm (TL954456).

Immediately north of the castle site is the modern access road from Powney Street crossroads to Milden Hall. Hodkinson's map 1783 shows that this modern access road was originally the western route from Powney Street and the Church Road crossroad. It led past the motte to the present-day 16th-century timber-framed Milden Hall (Map 5.79; Figures 119-120), with its impressive and similarly dated timber-framed barns (Department of the Environment 1980: 261; Dymond 2003: 24; Figures 126-7). This is the present home and working farm of the Hawkins family (TL944463).

On the other side of the access road is the long gentle slope of the plateau's north-facing scarp, which runs 1125m from the motte at OD+73m down to the tributary of the river Brett located at OD+38m (Figures 116, 129). This area of farmland is now farmed for arable and mainly sown with wheat. The most significant man-made feature on this scarp is the B1115 road that cuts across it about half-way down and is illustrated in Hodkinson's map 1783 (Maps 5.77 & 79; Dymond 2003: 24).

Hodkinson's map demonstrates the present B1115 rather than Church road, was by the 18th century, the principal east-west communication route in the parish leading from the crossing of the river Brett at Semer to Lavenham. This route does not pass through the village, but it passes

¹⁰ 'The Plough' was originally the village public house, or rather possessed a small tap-room situated in an out-building, which according to Mr Hawkins was until recently licensed to sell beer.

the motte 600m to the north, where it forms a second crossroads with Powney Street at OD+61m (TL948468) (Dymond 2003: 24).

As a result, Church Road with St Peter's at the far end of the village is interpreted as the medieval core of Milden. This interpretation is supported by the two other moated sites located along its course. One is the Moat Farm with surviving 16th-17th- century buildings (TL961467) and the other was Bures or Bowers Hall, first recorded c.1314 (TL957463) (Copingier 1905: 160-1; Department of the Environment 1980: 261). The evidence of the relationship between the motte, St Peter's and the two moated sites suggests Milden originally had a linear settlement morphology.

The field names recorded on the Tithe map would appear to suggest that the village's medieval open field was situated at the top of the north-facing scarp of the plateau between St Peter's and Powney Street crossroads, and Church Road and the B1115. It should also be noted that two field-names 'Great' and 'Little Stubble' are situated on the eastern side of Powney Street opposite the moat. This suggests that these fields were assarted from woodland (SCRO(B). *Tithe Map and Apportionment: Milden*. 1840. T36/1 & 2; Field 1993: 67; Map 5.85). There is furthermore a notable concentration of 'woodland' field-names at the southern and southwestern end of the parish adjacent to the surviving ancient woodland of Milden Thicks and Bill Cross wood. This suggests that this southwestern area of the parish was formerly woodland or woodland-pasture, later converted into arable.

Some 500m south of the castle is the crest-line of the north-facing scarp, beyond which is a gently undulating till-plain plateau, varying in height between OD+70m and OD+80m, which is now farmed for cereals or less frequently beet (Map 5.77). This plateau stretches south of the earthwork as far as Groton, where the south-facing scarp of the plateau occurs (Maps 5.65 & 79). Prytche's Mount castle earthwork at Groton is located 3850m southeast of Milden castle (Appendix 1.14, Chapter 5.2).

5.4.2: Environmental resources

5.4.2.a: Geological resources

Within the parish of Milden both the solid and drift geologies are exceptionally diverse and confused (British Geological Survey 1991).

5.4.2.a.i: Solid geology

The parish of Milden has three different types of solid geologies (Map 5.82). The majority of the parish lies on the South Suffolk upland plateau and has a solid geology of crag, which itself overlies a stratum of lower London tertiaries consisting of Thanet, Woolwich and Reading beds. In the extreme west and north of the parish the solid geology is upper chalk, where the tributary of the river Brett has eroded through the crag and the lower London tertiaries to expose the underlying chalk. Finally, it should be noted that immediately east of Stackpole Yard (TL965456) the lower London tertiaries are not covered by crag but form a discrete area of drift geology in the neighbouring parish of Monks Eleigh (British Geological Survey 1991).

5.4.2.a.i.1: Chalk

The solid upper chalk geology is uniformly chalk; its base occurs at OD-80m to OD-100m at Milden. The upper chalk overlies middle chalk, which forms a single hydro-geological unit as the modern principal aquifer in the parish (Boswell 1929: 8-11; Pattison *et al.* 1993: 15-20, 54-55 & 58). The chalk is exposed at the Old Pit near Wells Hall, Brent Eleigh (TL94864714), and the Old Pit at Swingleton Green, Monks Eleigh (TL96624717) (Pattison *et al.* 1993: 16).

5.4.2.a.i.2: Crag

Crag occurs to a maximum depth of 42m in the district. It extends south as far as Parliament Heath as well as north of the castle site approximately to the line of the B1115 and Powney Street crossroads (TL952463), which is situated about half-way down the north-facing scarp from the plateau at OD+76m. Here the solid geology of crag found on the plateau gives way to the upper chalk in the valley of the Brett tributary (Boswell 1929: 27-33; Pattison *et al.* 1993: 33-4, 55-6). At Milden almost all the crag overlies a stratum of impermeable lower London tertiaries, 4-5m thick at a depth of OD+38m. The lower London tertiaries then overlie chalk (Boswell 1929: 11-22, 24-26; Pattison *et al.* 1993: 24-32). This distribution of solid geology means that the arable fields at the top of the north-facing scarp and the plateau overlie crag but the fields at the bottom of the scarp in the valley of the tributary of the Brett overlie upper chalk.

5.4.2.a.ii: Drift geology

Almost all the parish of Milden is overlaid by an unbroken till-plain of Lowestoft till, which is exceptionally heavy, silty and impermeable (Map 5.82). The till is so sticky and difficult to excavate that it clings to spades, and it is impossible to cross the eastern part of Foxburrow field

without large quantities of clay clinging to boots. This is the heaviest clay soil found at any of the sites in this survey and covers much of the upland plateau in the south of the parish.

Trist (1971: 65-6) describes the till in the district as 'the heavy soils of the Boulder-Clay', noting that it is notoriously difficult to drain and was used in the historic past as a building material known as 'Clay lump'. The Soil Survey of England and Wales described this soil type as Ashley Association Soil, which is characterised by slowly permeable sub-soils, which result in seasonal water-logging. According to Mr Hawkins, many of the fields of Mildenhall Farm have had mole drains laid in order to assist with the problems of drainage. Before their introduction much of the rainfall drained away as surface run-off via the shallow valleys found on the north-facing scarp described below (Boswell 1929: 37-46; Hodge *et al.* 1984: 96-8; Pattison *et al.* 1993: 42-5).

There are several run-off channels or shallow valleys cut into the till-plain within the parish. These drain run-off from the plateau down to the tributary of the Brett. The most important of these for this survey is the shallow valley in which both Mildenhall and Mildenhall Castle earthwork are located. This shallow valley, containing a seasonal watercourse is described in the Tithe map as Mill Field and located northwest of the earthwork. This watercourse is identified as the manorial mill-chase. All of these shallow valleys share a common drift geology described as head. Head is defined as an accumulation of shaped and angular local rocks which are coarse close to hills but become smaller, more mixed and contain finer material further away. It can be used in a general sense for any downhill creep of weathered material or, as here, to describe material deposited by partially thawed material passing over frozen ground. In these valleys the head acts as a local perched aquifer (British Geological Survey 1991; Pattison *et al.* 1993: 49-51; Martin 1999b: 26-7).

The valley floor of the tributary of the Brett is located in the extreme north of the parish, at the foot of the north-facing scarp. It evidences a confusing drift geology, with a second area of glacial sands and gravels between Wells Hall (TL946473) and the junction of Powney Street with the B1115. There is also a large area of alluvium immediately west of Wells Hall, which appears to have been created by the draining of a mere or fen. Finally, there are further patches of head also found in the valley bottom (Boswell 1929: 51-55; British Geological Survey 1991; Pattison *et al.* 1993: 52-3).

Although the castle abuts the drift geology of head associated with the shallow valley, the site of the castle overlies a discrete area of drift geology located at OD+70-75m. Woodland (1946: 9)

refers to this as high level gravels to distinguish them from the lower glacial sands and gravels, as well as noting:

‘The deposits are unusually highly ferruginous and composed of little else than flints, often large and poorly sorted, set in a loamy or clayey matrix. On high ground they seldom reach more than 10 feet (3m) in thickness’.

These high level gravels were formed by solifluction – the alternate freezing and thawing of glacial flows from the South Suffolk plateau during the Ice Age. At Milden they stretch approximately 600m from the castle to Milden Castle to Milden Hall and are some 400m wide. This drift geology occurs in the neighbouring parish of Great Waldringfield, but over a far greater area, including Babergh Hall, which was the double-hundred’s meeting point (Boswell 1929: 46; Trist 1971: 10-11 & 135; Pattison *et al.* 1993: 45-8; British Geological Survey 1991).

5.4.2.b: Hydrological resources

The parish is located in the Stour river drainage-basin. According to the index of the 1st edition of the Ordnance Survey, the 19th-century parish contained a total area of 0.79 acres (3200m²) of water (Ordnance Survey 1893). The average annual rainfall for the area around Sudbury is 600mm, so that droughty soil is the summer norm (Pattison *et al.* 1993: 58).

5.4.2.b.i: Watercourses

Milden lies within the Stour drainage basin, and the nearest navigable river is the river Brett, which was probably navigable to Hadleigh in the historic past. The nearest year-round watercourse is the tributary of the Brett some 1175m immediately north of the castle site, at the foot of the north-facing scarp of the plateau (Figures 116, 129).

It has been noted above that at Milden drainage from the plateau is assisted by several shallow valleys, each filled with head that acts as a local aquifer (Map 5.82). These channels drain much of the rainfall that cannot permeate into the drift geology from the plateau and into the tributary of the Brett in the north of the parish. One of these shallow valleys occurs immediately west of the earthwork and feeds the large ditch that forms the eastern boundary of the large field called Mill Field (Map 5.85), although, as today, this must have been subject to seasonal variation. It is argued here and below that this watercourse functioned as the millrace for the Domesday manorial Mill (Rumble 1986: 41,10.).

5.4.2.b.ii: Wells

The piezometric surface in the chalk is relative to the height of the topography, so that the maximum height of the water-table is OD+70m at Cowlinge and Rede, but it is at its lowest at Great Cornard in the Stour Valley at OD-20m. Moreover, the piezometric surface is subject to a seasonal fluctuation of +/-2m during the course of the year. As a result, shallow chalk wells produce only a modest yield of 1 to 5 litres per second (Pattison *et al.* 1993: 15-23; 58-9).

Despite these problems, the modern water-supply for Milden is accessed from deep within the chalk. As Woodland (1942b: 4) notes:

‘Water, often in large quantities, is usually to be obtained by boring 150 feet or so into the formation. The better supplies tend to occur in regions where the cover of Boulder clay is not very thick’.

Two deep modern wells are identified in Milden by Woodland’s well survey (Map 5.82); one is at Milden Hall and appears to be a replacement for an earlier well described by Whitaker, which is discussed below. Woodland reports that this well was at OD+225 feet (63.58m). It was bored and lined through 67 feet (20.42m) of boulder clay, 45½ feet (13.87m) of glacial sands and gravels and 112½ feet (34.29m) of chalk, with a rest water level of 113 feet (34.44m).

Woodland records a second public and tube-lined well in Drury Lane, which runs from Church Lane to Serens Hall some 440 yards (402m) southwest of St Peter’s church, at OD+264 feet (80.48m). This was cut through 88 feet (26.82m) of boulder clay, 37 feet (11.27m) of glacial sands and gravels, 13 feet (3.96m) of London clay and 112 feet (34.14m) of chalk, a combined total depth of 250 feet (76.2m), with a rest water level of 113 feet (34.44m). He also notes that water was only struck at 225-245 feet (68.68-74.68m), which then rose up the bore and explains the great depth required to reach the modern confined aquifer in the chalk (Woodland 1942b: 64; Detay 1997: 10).

Before mechanical boring allowed access to the chalk aquifer, well shafts were therefore restricted to confined aquifers associated with perched water supplies. These are found closer to the surface and associated with high level gravels within the till plain or the head in the shallow valleys. As Boswell (1929: 64) notes:

‘Villages and farms derive their water-supplies mainly from shallow wells sunk into the glacial sands and gravels or crag. Where surface-drainage is kept out by a cover of impervious boulder clay, freedom from contamination is usual in districts with only a small population. Such water, however, often becomes highly ferruginous’.

At Milden any rainfall on the plateau falls upon a slowly permeable Lowestoft till, which, because of the flat landscape of the plateau cannot easily drain away. As a result, shallow valleys have been cut into the north face of the scarp that act as run-off channels filled and are

with head. This creates a perched water table and acts as a local aquifer. The rainwater that does manage to percolate through the Lowestoft till cannot easily drain further down into the underlying solid geology of crag or chalk because of the silts and clays of the lower London tertiaries that restrict downward percolation.

Thus, the drift geology of high level gravels and head was an important source of water-supply in the historic past, as shown by the location of both Milden Hall and castle earthwork, although this supply was limited and subject to seasonal variation. This drift geology is far from ideal for well-sinking. Woodland (1942b: 9) notes of the water-supply in the high level gravels:

‘The individual catchments are small and storage potentialities are limited; consequently only small supplies can be expected, and these may fail completely during the dry season’.

By contrast, in the shallow valley to the northwest of the castle, beyond the scheduled area of the monument, the excavation of 1m x 1m x 1m test pits exposed a stratum of head but no archaeology. It was discovered that these pits were found to slowly fill with water to a depth of 10-15mm, demonstrating that a perched water-table occurs at Milden and that it was possible to create a land-spring by excavating wells into this geology.

Two historic wells are recorded at Milden. One is associated with the pump in the kitchen garden of Milden Hall (Figure 120), which overlies a geology of head. As a hand-pumped well, this must be between 20-30 feet (6.1 to 9.1m) deep, as it is impossible to raise water higher than that due to air pressure (Vince 1978: 15).

A second well recorded by Whitaker as ‘Sunk and communicated (from memory) by Mr Kingsbury’ occurs west of St Peter’s church and was sunk to a depth of 104 feet (31.7m) (Map 5.82). This was excavated through 12 feet (3.66m) of boulder clay, then 12 feet (3.66m) of crag and finally 80 feet (24.38m) of upper chalk before an aquifer was reached. Whitaker records no lower London tertiaries in this well’s geological profile, so it is distinguished from the public well in Drury Lane identified above by Woodland (Whitaker 1906: 92).

It is argued here that the head found in the shallow valleys and the high level gravels act as local aquifer. The former can be exploited as a land-spring, fed by the rainfall draining from the plateau. The latter is a ‘gault’ or perched water table, associated with a permeable drift geology overlying impermeable drift geology fed by the rainfall. These were probably the only sources of well-supplied water before modern mechanical boring was possible. Finally, given the close proximity of the shallow valley to the earthwork, it would have been relatively easy to sink a

well into the head and create a land-spring to supply the castle, although this would be unreliable due to seasonal variation in a limited supply.

5.4.2.b.iii: Ponds

The relatively impermeable nature of the Lowestoft till and the depth of a reliable aquifer at Milden encouraged the creation of ponds in the parish. The parish has 40 modern ponds recorded, which is a density of 7.4 ponds per km², and this figure is considerably higher than the Babergh District average of 4.5 ponds per km² (Sibbert 1999: 13 & Table 4). However, there are only three existing ponds within 1km² of the earthwork and two further ponds suggested by the survey, giving a pond density of 5 ponds per km² in the vicinity of the earthwork (Map 5.83).

Despite this relative low density, Green Yard Pond at Milden Hall can be demonstrated to have been a major source of supply from the large quantity of broken Roman, Anglo-Saxon and medieval pottery sherds, some still visible *in situ*, buried in the exposed face of the pond edge, and the discovery of a freshly minted Roman coin from Green Yard Pond (TL945463; Figure 121, Appendix 17) during dredging discussed below.

It is argued that the flat area immediately west of the motte and inner bailey of the castle earthworks is a relict pond that is now a seasonal pond (Figures 134, 136). This had a triple function: it protected the western side of the castle as a wet moat; it acted as a reservoir to provide an additional source of water for the castle and it supplied water to the mill-race and ditch that forms the eastern boundary of Mill Field lower down its course (SCRO(B). *Tithe Map and Apportionment: Milden*. 1840. T36/1 & 2; Rumble 1986: 41,10.).

That this ditch forms the southern boundary of both fields in the survey but does not follow the lowest point of the natural contour is to be expected. The topographical survey of the surviving southeastern section of the eastern ditch demonstrates that the eastern ditch of the castle appears to end before the southern boundary ditch. It is in fact an artificial channel designed to carry water into the shallow valley west of the earthwork, which channels the natural drainage around Foxburrow Field. Before the excavation of this modern ditch, drainage must have followed the natural contour past the southern face of the motte. This would have drained into the ditch at the foot of the motte and then into a former wet moat or mill-pond at the base of the western face of the castle earthwork. However, this ditch and boundary is recorded c.1840 on the Tithe map, so the southern boundary ditch must be older (SCRO(B). *Tithe Map and Apportionment: Milden*. 1840. T36/1 & 2).

5.4.2.b.iv: Springs

Springs also occur associated with the plateau, although not within the parish of Milden. In the neighbouring parish of Monks Eleigh two springs are recorded on the modern Ordnance Survey map, the first located on the crest of the north-facing scarp between the OD+70m and +75m contours (TL965454), the second is implied by the place-name Spring House Farm at a similar height in the topography (TL464454).

5.4.2.c: Historic timber resource

The majority of modern woodland is concentrated in the south and west of the parish of Milden. Rackham (1999: 64-6 & 200) records five areas of medieval woodland in or more frequently upon the parish boundary of Milden. The largest of these medieval woods is Milden Thicks, which largely lies outside the modern parish of Milden in the neighbouring parishes of Waldringfield and Groton (TL942452, TL955442, TL946444, TL946448; Map 5.77). Milden Thicks was scheduled c.1986 as a Site of Special Scientific Interest (SSSI) (English Nature 2007h). According to its scheduling documents it consists of 46.9ha of interrelated ancient woods that represent a transition from the largely ash-maple-hazel woods of mid-Suffolk to the lime and suckering elm woods of South Suffolk. Milden Thicks contains several areas of woodland, known as Bull's Cross, Walding, Hall, Hazel and Long Woods.

These woods all share the common characteristic of East Anglian woodland, in that they consist of a complex or mosaic of different woodland types, but at Milden Thicks this diversity is greater than anywhere else in Suffolk. This is explained by the diverse soils and their historical woodland management. For example, Bull's Cross Wood lies on the site of four ancient woods which were merged into a single wood during the later Middle Ages. It has enormous diversity with oak *Quercus robur*, ash *Fraxinus excelsior*, field maple *Acer campestre*, hornbeam *Carpinus betulus*, lime *Tilia cordata*, aspen *Populus tremuloides*, wild cherry *Prunus avium*, birch *Betula pendula* and elm *Ulmus glabra* (English Nature 2007h).

All the woodland in Milden Thicks has a coppice with oak-standards structure and an exceptionally rich, ancient and diverse ground flora. At Bull's Cross Wood the coppiced under-wood species include: hazel *Corylus avellana*, common hawthorn *Crataegus monogyna*, midland hawthorn *Crataegus oxyacanthoides*, guelder rose *Viburnum opulus*, spindle *Euonymus europaeus* and dogwood mercury *Cornus sanguinea*, whereas the ground flora is largely bramble *Rubus sp.*, helleborine *Epipactis purpurata*, birds-nest orchid *Neottia nidus-avis*, twayblade *Listera ovata*, spurge laurel *Daphne laureola*, primrose *Primula vulgaris*, violets *Viola sp.* and sanicle *Sanicle europaea* (English Nature 2007h).

Walding wood's ground flora is especially noted as being of international importance and includes ancient woodland indicator species such as the early purple orchid *Orchis mascula*, cuckoo pint *Arum maculatum* and hairy woodrush *Carex pilosa*. The Hall and Hazel woods appear to be medieval woodland delineated by banks and are especially noted for their wild service *Sorbus torminalis*, which also occurs in the Long and Bull's Cross woods.

Today Milden evidences a large, diverse and ancient area of woodland bordering the parish, an important source of timber for castle building. However, at Domesday 1086 Milden manor had woodland for only six pigs (Rumble 1986: 41,10.). This suggests that much of Milden Thicks did not exist, was planted later, was held by neighbouring manors as it is largely located in neighbouring parishes¹¹ or, was not held in *demesne* at Domesday. However, the landscape evidence of field-names suggests that there was a greater quantity of woodland or woodland-pasture at Milden in the past than would be implied by its description as woodland for six pigs. The occurrence of field-names such as 'Great' and 'Little Stubble' recorded on the Tithe map, suggests there was enough non-*demesne* woodland in the parish for areas to be assarted (Field 1993: 67; Map 5.85).

5.4.3: Anglo-Saxon Milden

The place-name Milden is Old English recorded as *Mellinga* (c.1086), *Meldinges* (c.1121-48 & c.1186-91), *Melling'* (c.1160), *Meaulinges* (c.1186-91), *Mildinges* (c.1190), *Mauling* (c.1610), and *Milding* (c.1783). Currently the place-name is interpreted as OE **melding* < **melde* + *ing* 'the place where the mild/ meld grows'. OE *melde*, Dan. *meld*, O.H. Ger. *malta*, Ger. *melde* and Swed. *målla* (Bosworth and Toller 1898: 677; Butler 1949: 138-9; Davis 1954: 64 & 67; Rumble 1986: 14,34. 41,10.; Coates 1997: 39; Dymond 2004: 24; Watts 2004: 413). The alternative is an unknown OE personal name Melda with an *-ingas* suffix, as *Meldingas* < **Melda* + *ingas*, 'the people called after Melda', which is discounted by Coates for linguistic reasons (Coates 1997: 26-49).

Meld-weed is normally interpreted as referring to a plant commonly known as Orach *Artiplex hortensis* (Watts 2004: 413). Local historian Barbara Barlow has pointed out that it is also the local name for fat-hen *Chenopodium album*, which is a frequently found weed in modern East Anglian beet fields. Meld-weed is found on rich soils especially formerly cultivated ground or

¹¹ Waldringfield, woodland for 10 pigs; Edwardstone, woodland for 10 pigs; Groton, woodland for 10 pigs (Rumble 1986: 6,1. 8,48. 14,25. 25,46. 35,2.).

broken ground, such as former manure or rubbish heaps or building sites (Barlow 1993: End Piece; Mitich 1988: 550-2; Bond *et al.* 2006: 1-15).

There is little documentary or archaeological evidence of early or mid-Anglo-Saxon settlement at Milden. Before 1066 Milden was valued at £5 and formed part of the estates of Leofwin of Bacton, described as a thegn of King Edwards (Map 5.86). Milden was not Leofwin's most valuable manor, which was Bacton (valued at £9). The latter lay outside of the Liberty of St Edmund in the so called geldable area of Suffolk, where the Sheriff of East Anglia represented royal authority. Within the Liberty of St Edmund the Abbey of St Edmund collected the Danegeld and exercised justice on behalf of the crown (Lobel 1935: 13 & 118; Davis 1954: xxx-i; Rumble 1986: 41,7;10.; Martin 1999b: 26-7; Appendix 4.20).

Apart from Leofwin, the only other to hold in the settlement was St Edmund's Abbey, which held *sac* and *soke* rights over the single freeman with fifteen acres of land, taxed at 2 shillings (Davis 1954: xxxii-xlvi; Rumble 1986: 14,34.). This is probably the same freeman who further held 10 acres as a tenant of Milden Church (Rumble 1986: 41,10.). This freeman looked to the Abbot of St Edmund's court for protection and that is where he paid suit, but it should be noted that Abbot Baldwin's Feudal Book has no record of this freeman at Milden (Douglas 1932).

Milden manor was prosperous enough before 1066 to have a church, although that Anglo-Saxon building was rebuilt as the present Norman church in the late 11th or early 12th century (Rumble 1986: 41,10.; Mortlock 1990: 164-5; Figures 117-8). The settlement had five and half plough teams, two in lordship, with three held by the men and three oxen held by St Edmund's freeman. There was a mill, the field-name Mill Field suggesting its location and that cereal production was an important crop for the late Anglo-Saxon manor.

There were also several types of stock recorded, including six cattle, twenty-two pigs, forty sheep and twelve goats. The latter were possibly used to help clear felled woodland or the woodland pasture of Milden Thicks, although a modest amount of manorial woodland, rated for just six pigs, has been noted. The two horses are especially noteworthy in light of the archaeological material found by Mr Hawkins. It has been argued elsewhere that these finds and the large scatter of Anglo-Saxon pottery would suggest that the late Anglo-Saxon manor at Milden was probably located at Bryants Yard (Figure 122).

The most striking feature in the Domesday survey of 1086 is Milden manor's social composition. Apart from a single freeman who held from St Edmund (Rumble 1986: 14,34.), the remaining sixteen recorded members of the Domesday population of Milden were all bound,

to a greater or less extent, by labour service to the late Anglo-Saxon manor of Milden (Rumble 1986: 41,10.). The population consisted of six villagers, six small-holders and four slaves. This means that 25% of Milden manor's population were slaves. That is unusual both for Suffolk, which had a mean slave population of 4.7%, and for Babergh hundred, where slaves formed 10-15% of the Domesday population (Darby 1971: 358 & 379). The social composition of the manor, with its lack of free population and large percentage of slaves, as well as its virtually complete domination of the settlement, is a similar pattern to that noted at other larger Anglo-Saxon lordship centres such as Desning. However, immediately post-Conquest Milden does not appear to have been a major Anglo-Saxon lordship centre.

In the light of the Domesday evidence Milden manor is interpreted as a small, formerly independent Anglo-Saxon lordship centre that became part of a larger estate some time before Domesday, possibly as a gift of Edward the Confessor to his thegn Leofwin of Bacton. Leofwin's late Anglo-Saxon lordship Milden represented just one of several manors he held in Suffolk, but it was not the most politically significant or valuable of his holdings.

5.4.4: Anglo-Norman Milden

The two most notable changes in the manor of Milden between 1066 and 1086 are the loss of two of the three ploughs held by the men of the manor and a 50% increase in the value of the manor. However, similar post-Conquest losses of plough-teams noted in East Anglia, along with an increase in the value of manors, may suggest the introduction of a new more efficient estate management at that time (Welldon Finn 1967: 162-4; 199-200). There are also small increases in the total number of stock but nothing that could not be explained by a natural demographic increase in population. The overall impression is that Milden manor was still held in *demesne* and had not greatly changed between 1066 and 1086. There is no evidence that it had been subinfeudated until Gilbert de Melding is recorded c.1110 (Dodwell 1960: 158; Appendix 16.9.1).

By the late 12th century the Kalendar of Abbot Samson (c.1182-1211) records that the Abbey of St Edmund had organised Milden into one of the fifteen *ferdings* found in the double hundred of Babergh. Milden was grouped in the eighth *ferding* along with Preston and Eliegh. These three settlements were collectively responsible for making payments for the 'royal' taxes of Danegeld, Wardpenny and Sheriff's aid (c.1186-91). For example, they collectively paid 23½d Danegeld. The payments from Milden recorded in Samson's Kalendar are a contribution of 7d towards the Danegeld payment but also 1d Wardpenny and a 12d contribution to *ferding* payments to the Sheriff (Davis 1954: ix, xv, xxii, 64, 67).

It has been noted above that there was no record of St Edmund's freeman with his fifteen acres of holdings at Milden in Baldwin's Feudal Book, but neither is there a record of this freeman in Samson's Kalendar. However, the Abbey is recorded as intervening at Milden, for example, when a murder was carried out by three men from Milden in the neighbouring village of Monks Eleigh during the time of Archbishop Baldwin c.1184 to 1190 (Greenway and Sayers 1998: 45-8).¹²

It would appear that Milden church was constructed before c.1100, which suggests that Walter the Deacon was probably the agent of its construction, and it replaced an earlier church recorded at Domesday (Rumble 1986: 41,10.; Mortlock 1990: 164-5, Pevsner and Radcliffe 2000: 363; Appendices 16.8.1-2).

5.4.5: The archaeology of Milden Hall

The 1st edition of the Ordnance Survey map marks the location in the northeast of the western half of Foxburrow Field where 'human and animal remains, sword, spurs and bullets were found', probably as the result of gravel extraction. Four scattered fragments of early medieval coarse-ware were found during the survey, which were also associated with the area where gravel extraction had occurred (Ordnance Survey 1891: *Suffolk Sheet LXXIII NW*; Map 5.80).

A striking contrast between Milden and the other settlements containing castles surveyed as part of this thesis is the enormous amount of archaeological material – organic, numismatic, metal work and ceramic - recovered over many years of metal detecting and field walking by the Hawkins family (Figure 123). The material recovered by the Hawkins' family from their fields, covers a wide chronological distribution; from Neolithic stone axes through to parts of a US Army Air Force P51 Mustang that collided with a RAF Hawker Hurricane over the farm during

¹² The monks of Canterbury disputed the Abbot of St Edmund's right to hear a case for murder that had occurred in their manor of Eleigh, which was a serious challenge to the Liberty of St Edmund. To preempt events Abbot Samson ordered Robert de Cockfield with eighty men to seize the murderers in a dawn raid on Milden, an action that suggests that the lord of Milden could not be trusted to hand the killers over to St Edmund's officials. In Lent 1187 at Canterbury King Henry II was asked to judge between the two charters of St Edmund's and Canterbury, both granted by Edward the Confessor. King Henry was unable to do so because the charters contradicted one another. As a compromise, Abbot Samson suggested that the shire courts of Norfolk and Suffolk should arbitrate, but this was rejected by Archbishop Baldwin on the grounds that 'the men of Norfolk and Suffolk were devoted to St Edmund, and that a large area of both counties was under the abbot's command'. The Archbishop's refusal of this solution greatly incensed the King. Therefore the dispute dragged on, with the men of Monks Eleigh increasing the sense of crisis by raising a weighbeam and trying cases of false measures of grain or bread c.1190-1. Abbot Samson appealed to Richard de Longchamps, the bishop of Ely, as justiciar of England on behalf of King Richard, when he visited the shrine of St Edmund. The bishop's refusal to help was explicitly interpreted by Abbot Samson as a declaration of personal conflict between the bishop and the Saint. As a result Longchamp's disgrace, exile and excommunication were gleefully seized upon by St Edmund's Abbey (Greenway and Sayers 1998: 45-8).

World War II. As a result, the family have collected a remarkable range of archaeological material from the area outside the scheduled area of the castle, which has (correctly) been assiduously avoided.

This material presented a problem for the survey since it could not all be catalogued, as there was far too much material, too little in the way of resources and a lack of the necessary specialist knowledge. As a compromise, with any obviously post-medieval archaeological material was separated out. The remaining material consisted of the numismatic material (Appendix 17), the metal work that appeared to be medieval or earlier (Appendix 18) and a large quantity of pottery (Table 5.5). There is no published medieval pottery typology specifically for south Suffolk but there is a catalogue of post-Roman pottery from Colchester available (Cotter *et al.* 2000). Armed with this publication a sample was taken of all the different types of pottery sherds represented in the Hawkins' collection. This sample comprised some 48 sherds, selected with a bias towards rim fragments, bases and any decoration to aid identification. These sherds were then taken to Ms Sue Anderson of the Suffolk Archaeology Unit and with her help a proxy typology was created, with which we typed the remaining 828 pottery sherds and then were able to crudely date any concentrations of pottery (Table 5.5).

This was possible because Mr Hawkins has kept the material grouped by the fields where he found it. From the distribution of finds it quickly became apparent that there are three important archaeological sites in the immediate vicinity of the castle. These are: the area around Green Yard Pond, Bryants Field and the eastern part of Foxburrow Field.

5.4.5.a: Green Yard Pond

Green Yard Pond at TL945463 (Figure 121; Map 5.85), which produced a quantity of Roman pottery fragments and a single Roman coin, found while dredging the pond. This was a recently minted *siliqua* of Flavius Victor c.387-7 with a Milan mint mark and suggests a terminal date of Roman occupation (Appendix 17). Moreover, there was a large quantity of early medieval coarse-ware and a smaller quantity of medieval shelly-ware as well as two large fragments of Thetford ware (late 11th-century) with identical decoration. Although none of the edges of the sherds join, they are apparently from the same vessel (McCarthy and Brooks 1988: 157-161 & Fig. 81). No metal work is associated with the pond. Green Yard Pond is interpreted as the principal source of water-supply for the area immediately around Mildenhall, and the broken pottery is seen as the result of vessels being accidentally smashed when collecting water. However, the vast majority of the pottery was either medieval coarse or shelly ware. No later medieval and few post-medieval pottery fragments have been identified from this site,

suggesting that it ceased to be the principal domestic water-supply at some time during the medieval period. It should be noted that further scatters of pottery fragments, numismatic and metal-work finds from the Roman to the early modern period are found adjacent to the present Mildenhall at New Meadow, Dove House Close and the Garden and Bull Yard (Table 5.5, Appendices 17 & 18), but not in quantity before the early modern period to be significant.

5.4.5.b: Bryants Field

Bryants Field (Figure 122; Map 5.85) produced a second concentration of mainly Roman pottery and the largest concentration of early medieval coarse ware fragments. However, there is just one fragment of late medieval floor tile and one fragment of late medieval-ware, both of which are interpreted as stray finds. There were little early modern and no post-early modern pottery fragments from this site and no obvious metal work of a Roman, Anglo-Saxon or medieval origin. Another field called Long Croft is associated with the Bryants Field site and has produced the two most important artefacts discovered by Mr Hawkins, two similar but not identical 11th-century Anglo-Saxon horse strap-mounts (Figures 124-5). Mildenhall is the first site where two strap-mounts have been found in the same location (Williams 1997: 71-2; 73-4, Figs 47,321 & Fig. 46,308) and has special significance because the Domesday Book records that the manor of Mildenhall in 1066 had two horses (Rumble 1986: 41,10.). However, there is no obviously post Anglo-Saxon medieval pottery and no further datable metalwork, apart from numismatic material that are probably stray finds, in the Hawkins family's collection from Long Croft, suggesting that there were no Roman or later medieval settlements in this locality. The large quantity of early medieval coarse-ware compared with the relative paucity of later material and the horse strap-mounts suggests that this location was a significant in the early medieval period and is interpreted as the site of the site of the late Anglo-Saxon manor of Mildenhall.

5.4.5.c: Eastern part of Foxburrow Field

Foxburrow Field is the name given to the field that contains the earthwork and a neighbouring field (Map 5.85). This field is divided in two by a hedge line and the remains of a substantial ditch. The western field contains the earthwork motte and bailey. The eastern half of the field has produced a large quantity of Roman pottery fragments, a large concentration of medieval coarse- and shelly-ware as well the only significant concentration of late medieval roof and floor tile at Mildenhall. It has also produced the largest quantity of medieval and post-medieval metalwork of all the fields. These have been dated between the 13th and 17th centuries with the assistance of the Department of Medieval and Later Antiquities of the British Museum. This includes two 14th-century belt fittings and a copper alloy plaque in a Limoges style, which

includes the image of a crucified right foot, which was probably a fragment of a crucifix of a 13th- to 14th- century date and possibly produced at Bury St Edmunds (Shaffrey 1999: 62-65; Campbell 1998: 69-80). The numismatic evidence consists of a copper-alloy coin of Constantius II (c.353/4 to 357/8), a silver penny of Edward II (c.1310-14), a half silver penny of Edward III (c.1335-43) and a worn Elizabeth I silver shilling, the date of which cannot be determined (Appendix 17). All the coins at Milden were identified by Dr Barry Cook from the Department of Coins and Medals at the British Museum.

As a result of this archaeological evidence, the eastern half of Foxburrow Field is interpreted as the site of a substantial post-Anglo-Saxon building, subject to a lengthy occupation, and which was possibly rebuilt on more than one occasion. The reused timber in the barn at Milden and discovery of a house platform, both discussed below, suggests that this is probably the location of Milden manor from the 11th or 12th century until c.1540, when the present Milden Hall and its associated barns were constructed.

The project objective was to carry out a reconnaissance survey of Milden earthwork, rather than create a catalogue of the multi-period site at Milden, which would be a PhD. thesis project in its own right. Therefore, the archaeological material has only received a preliminary examination. However, the area of Foxburrow field represents, in terms of the diversity, survival and quantity of archaeological material, the most productive of all the castle sites in the surveyed sample. In addition to the castle earthwork there are two manorial sites identified, both of which merit further detailed archaeological investigation. The full excavation of the Bryants Field site and house platform in the eastern half of Foxburrow Field could produce a useful localised and multi-period typology of rural archaeological material. It would be especially useful, as Egan and Pritchard (1991) have suggested, in complementing our knowledge of small medieval metalwork finds from urban contexts.

5.4.6: Anglo-Norman lordship, dynasties and agent

The post-Conquest lordship of Milden had originally belonged to the fief of Theoderic, the brother of Walter the Deacon who died before 1086 (Rumble 1986: 41,10.; Keats-Rohan 1999: 427; Appendices 16.8.1-2). Theoderic's former fief later owed the service of at least eight knight's fees (Dodwell 1962: 187), which subsequently formed the core of the honour of Bacton c.1110 (Rumble 1983: 42,1-2; 4-6.; 1986: 41,5;7;10-11;15;17.). Milden was never Theoderic's principal manor, nor his most valuable one (Dodwell 1960: 147-165). However, it is unlikely that either that he or his dynasty were the agents of the motte and bailey castle at Milden (NSMR Suffolk 111; SAUSMR MDN 003), because it was not the *caput* of Theoderic's fief

and he had died before the Domesday survey, making it unlikely he had time to raise a castle here. On Theoderic's death his brother Walter the Deacon inherited his fief and added it to his own (Maps 5.87-8; Table 5.4; Rumble 1986: 41,1-19.). As a member of the clergy, Walter is unlikely to have been the agent of the castle at Milden, although he may have been responsible for the post-Domesday Milden church (Mortlock 1990: 164-5; Appendix 1.15).

Following Walter's death some time before c.1110 his fief was reconstituted in the new barony of Little Easton (Sanders 1960: 130) and his brother Theoderic's former fief became the honour of Bacton (Dodwell 1960: 154; Dodwell 1962: 185-199). By c.1110 the lordship of Milden had passed to a Richard son of Gilbert of Melding (Appendix 16.9.1, Map 5.89), who held the manor in *mesne* from William of Bacton as part of the honour of Bacton, which William of Bacton in turn held from the bishop of Norwich (Dodwell 1960: 158). It is possible that Richard's father, Gilbert de Melding, was a post-Domesday tenant of Walter the Deacon at Milden. Milden was the de Melding family's principal manor, where they exclusively held for two knights' fees and from which the family took its surname. By c.1121-35 the manor of Milden had passed to Peter de Melding (d. c.1166) (Appendix 16.9.2), who held at least four knights' fees (Dodwell 1974: 65-6 & 134; Harper-Bill 1990: 41-2, 4, 69, 105 & 109; Keats-Rohan 2002: 578) and was presumably the son of Richard.

There is a reference to a castellan called 'W. of Milden' recorded during the civil wars of King Stephen's reign as raiding Semer and Groton (Greenway and Sayer 1998: 122-3). This would suggest that the castle at Milden was raised by Peter de Melding either as the *caput* of the Melding family between 1110 to 1135 or during the civil wars c.1135 to 1153 (Appendices 16.9.1-3; Map 5.89). Moreover, Peter's castellan 'W. of Milden' attacked manors of the de Melding's feudal overlord the bishop of Norwich and the chief ecclesiastical rival of the Abbey of St Edmund (Greenway and Sayers 1998: 122-3). This suggests that the attacking bishop was either Everard (1121 to 1145) or more likely William de Turbeville (1146 to 1174) (Harper-Bill 1985: 142-60; Keats-Rohan 2002: 835-6). It should also be noted that the Valognes lordship appears to have changed c.1141-2 with the death of Roger I de Valognes and Peter II de Valognes (Sanders 1960: 12-13; Keats-Rohan 2002: 758-9; Appendices 16.6.2-3). It would appear that during the civil war the Valognes lost control over their Suffolk tenants of the honour of Bacton, as 'W. of Milden' attacked St Edmund's Abbey manors at Semer and Groton and their other tenant, Hubert II de Montechesney, seized property from St Benet of Holme (West 1932: 25-6; Keats-Rohan 2002: 594).

5.4.7: Description of earthwork

Today Milden castle is represented by a series of mutilated earthworks that survive in Foxburrow Field (Figures 130-43, Map 5.90). The earthworks in the western half of the field are scheduled, whereas those in the eastern half of Foxburrow field are not. One of the key finds of the survey was the discovery of two previously unknown earthworks in this eastern half of Foxburrow Field. The difference between them is that the newly discovered house-platform and another relic pond are located upon or excavated into the drift geology of Lowestoft till, while the earthworks of the castle have been excavated and raised from the underlying glacial sands and gravels. The earthworks associated with the glacial gravels and sands have now slumped under their own weight due to stock poaching, filling the ditches and resulting in a loss of height.

It is argued that the entire area of the motte and baileys were excavated from the underlying glacial sands and gravels, where they are exposed on the slope of the shallow run-off valley from the plateau dominated by a heavy and clayey Lowestoft till. Unlike the other castle earthworks in this survey instead of being raised, the earthworks at Milden have largely been excavated from this discrete area of lighter geology. This is demonstrated by presenting the survey data in a three dimensional form by (Figure 143). Furthermore, it is argued that this Domesday vill had the third smallest Domesday population of all the castles in the data-set and that this method of construction was in part made necessary due to the limited workforce available at this isolated manor and to the sub-baronial lordship of the de Meldings in order to construct their *caput* castle. These earthworks are described and interpreted as follows:

5.4.7.a: Western half of Foxburrow Field

5.4.7.a.i: A central ditched motte

The 1st edition Ordnance Survey shows Milden castle with a substantial motte but no evidence of any other earthwork or ditch (Ordnance Survey 1891 Suffolk: *Sheet LXXIII NW*). The Ordnance Survey map has a cross on the motte with the caption 'Human and Animal remains' (Map 5.80). It has not been possible to establish the current whereabouts of this archaeological material and it is assumed that it is now lost. The Victoria County History sketch map show the earthworks in more detail, including the damaged eastern part resulting from gravel extraction and a substantial ditch around the base of the motte (Wall 1911: 608-9; Figure 131).

According to Mr Hawkins, the landowner, older villagers have informed him that the motte was higher before the Second World War, but that during the War the motte was damaged by pigs kept on the site and this has led to a loss in the height of the motte. This claim seems to be supported by the cartographic evidence of the Victoria County History sketch map, which suggests that a substantial ditch surrounded the foot of the motte, and by the surviving evidence of the ditch, which is now markedly less distinct but is indicated by a ring of nettles during the summer and appears to have had a maximum width of 6.8m (Wall 1911: 608-9; Figures 130-31, 135, 138, 143; Map 5.90).

The Victoria County History records that the height of the motte was 12 foot (3.66m) but it is not clear from where this was measured from, presumably that was the inner bailey (Wall 1911: 608-9). This suggests that the motte has lost over a metre in height since 1911, probably as a result of poaching by stock. The circular motte survives to 1.88m in height above the natural ground level in the eastern half of Foxburrow Field and is 5.8m higher than the seasonal pond immediately west of the inner bailey and 2.5m higher than the top of the inner bailey. The surviving top of the motte is an area roughly 7m in diameter (Map 5.90).

The total diameter of the motte is 56m, but its shape is elliptical because of the slump of the southern side of the motte. As a result, the radius of the motte from its centre to its edge is 21m to the north and 34m to the south. This would suggest that the original diameter of the motte was approximately 40m. On the southwestern face of the motte there is a shallow pit, which is interpreted as a back-filled fox-earth, from which the earthwork and field-name were derived.

5.4.7.a.ii: The eastern area between the motte and the boundary between the two halves of Foxburrow Field

Apart from a narrow area at the foot of the motte, almost the whole area between the motte and this eastern ditch has been mutilated by quarrying for gravel (Figures 137, 138, 140-1, 143). This has created two shallow ponds east of the motte. The eastern boundary of the scheduled area consists of a fence and, at its extreme southern end, the remains of a substantial ditch (Figures 140-1, 143). This ditch is not recorded in either the 1st edition of the Ordnance Survey or the Victoria County History map (Figure 131); consequently it is not interpreted as an original castle earthwork. This ditch is 26m in length, 16m wide and 0.2m deep (Map 5.90). If this was an original feature, it has been obliterated by gravel extraction on the eastern side of the monument. However, it is argued here that this ditch is relatively modern and originally checked the drainage of water down the natural slope and diverted it into the ditch that forms the southern boundary of both halves of Foxburrow field. Both the Victoria County History and

the survey identified a slight bank or fosse at the top of the counter scarp of the motte ditch for approximately 300 feet (91m) (Figure 131; Map 5.90). This follows the outer edge of the motte ditch around the eastern side of the motte, from the area of the northeastern entrance discussed below, before petering out opposite the motte's southeastern face. It is not clear if this fosse was part of the original earthwork, or a ramp and roadway subsequently created to access the gravel quarry (Figures 138-9).

5.4.7.a.iii: An inner bailey with a northern ditch

This is a small, clearly defined rectangular earthwork immediately to the north of the motte and marked by two substantial west- and north-facing scarps, which meet at a right angle northwest of the motte (Figures 134-6). Like the motte, this earthwork has partly slumped, back-filling the ditches and resulting in a loss of height. This area of earthwork is not recorded in the 1st edition of the Ordnance Survey map but where it should be there is a cross, which is used to indicate archaeological finds, and the caption 'Sword, spur and bullets'. This feature is also recorded in the Victoria County History map (Ordnance Survey 1891: *Suffolk Sheet LXXIII NW*; Wall 1911: 608-9).

The eastern end of the inner bailey and northeastern corner of the scheduled area was covered by a large patch of vegetation dominated by blackthorn (Figures 138-139), which made it impossible to survey. In subsequent surveys a technique was developed to allow work in patches of blackthorn, but as this was the first site surveyed that technique had not yet been perfected.

The width of the top area of the inner bailey is 11m, and it was possible to survey 23m of its length (Figure 135; Map 5.90). However, using the data from the Victoria County History map, it is estimated that this earthwork has a total length of 200 feet (61m) (Wall 1911: 608-9). The inner bailey has a substantial ditch, about 1m deep and 10m wide, running down the length of its northern edge (Figure 136; Map 5.90). Moreover, the inner bailey is 1m higher than the roadway beyond the ditch, as a result of which the height from the top of the inner bailey to the bottom of the ditch is 2m. However, the most dramatic scarp of the inner bailey is the western end of the inner bailey overlooking the seasonal pond, where the scarp is 2.75m high, with hawthorn trees growing on it (Figure 134; Map 5.90). The Victoria County History map shows another ditch along the western edge of the bailey approximately 30-35 feet (9-10.5m) wide and 167 feet (51m) in length (Wall 1911: 608-9; Figure 131). This has been entirely destroyed by cattle poaching and was not identified by the survey, although it is located by the small seasonal pond evidenced today (Figure 134, 136).

5.4.7.a.iv: *A northeastern entrance*

The castle's original entrance was probably northeast of the motte, which is marked by a distinct kink in both the hedge-line and road leading from the crossroads of Powney Street to Mildenhall shown in all the maps of the site (Ordnance Survey 1891: *Suffolk Sheet LXXIII NW*; Wall 1911: 608-9; Ordnance Survey 1999a; Map 5.90). This 'kink' in the road and hedge line at TL950462 suggests that this was originally the entrance to the earthwork from the road. This area has been mutilated to create a ramp from the road down into the quarry to allow horses and carts access the quarry (Figures 136-137). However, virtually all this area is currently under blackthorn, which provides cover for wild birds but made it impossible to survey.

5.4.7.a.v: *A former castle pond or wet moat*

The western side of the motte is on the floor of the shallow valley, and this is associated with a flat, wet low-lying area of ground (Figures 131, 134, 136). When visiting the site in February this area was so water-logged that another shallow seasonal pond had formed at the foot of the western scarp of the inner bailey. The Victoria County History sketch map of the site in 1911 (Figure 131) shows a now lost ditch 30-35 feet (9-10.5m) wide and 167 feet (51m) in length (Wall 1911: 608-9), beyond which, the far western end of the field, the flat ground starts to rise and forms the western slope of the shallow valley (Map 5.90).

The water-logged nature of the ground in the bottom of this shallow valley led to the digging of a substantial ditch, which drains into the tributary of the Brett in the river valley below. This is visible on the far side of the farm road immediately northwest of the earthworks (TL948461), where a substantial and deeply cut ditch forms the western edge of a large field immediately north of the castle, called Twenty-Acre Field and the eastern boundary of Mill Field on the Tithe map (SCRO(B). *Tithe Map and Apportionment: Mildenhall*. 1840. T36/1 & 2; Map 5.85). The ditch follows the course of the shallow valley down to the tributary of the Brett and is interpreted as a seasonal mill-chase.

The ditch appears to have been fed in the past from the seasonal pond or wet moat located immediately west of the motte, similar to Green Yard Pond (Figure 121; TL945463), with which it shares a similar topographical, geological and hydrological situation. Today this is represented by a flat, low-lying and water-logged area immediately west of the castle's earthworks, which is interpreted as the remains of a silted up but still seasonal pond. In the historic past, before the introduction of the present southern boundary ditch, this pond was fed

by run-off from the plateau south and west of Foxburrow. Its original purpose was to provide a mill pond to feed the mill-chase and to power the Domesday mill, which from the field-name evidence on the Tithe map must have lain on the eastern side of this ditch (SCRO(B). *Tithe Map and Apportionment: Milden*. 1840. T36/1 & 2; Rumble 1986: 41,10.).

5.4.7.b: The earthworks in the eastern half of Foxburrow Field

The survey's interest in this field was sparked by Mr Hawkins' pointing out that he had attempted to plough this field in the past but found it difficult to plough due to a patch of thick clay. This field is no longer subject to ploughing, as it is now subject to a DEFRA set-aside agreement in order to provide meadowland habitat for farmland birds. The field is bounded to the north by a modern hedge-line with mature and immature field-timber; beyond this is the access road to Milden Hall and the entrance to the field. The southern boundary consists of a gappy ancient hedge-line, which has been replaced by a modern wire fence. The 1st edition Ordnance survey shows a foot-path running down the other side of this boundary, but this no longer exists. To the west another modern wire fence occurs and the relic of hedge indicated by the occasional bramble and hawthorn. This half of Foxburrow Field has proven to be especially rich in archaeological material, which has been collected by Mr Hawkins by means of field-walking and metal-detecting.

5.4.7.b.i: A rectangular house platform

To the east of the field containing the castle earthworks is a second field that was also included in the area surveyed. The survey identified a house platform on a north-northwest to south-southwest alignment. The platform is 40m long, 5.75m wide and made of packed clay (TL951462; Map 5.90). It creates a distinctive 'kink' in the contours but is located on sloping ground. Interpreting this platform is problematic, whereas there is plenty of post-medieval archaeological evidence to suggest that the site was occupied up until the creation of the present Milden Hall c.1530. Moreover, there is also medieval numismatic, pottery and metal evidence, though none of this can prove the purpose of the medieval occupation of the site apart from a fragment of a late 13th-century Limoges-style crucifix. As a result, without excavation it is impossible to tell if the house platform was contemporaneous with the occupation of the castle or, more likely, the replacement lordship centre following the post-civil war slighting of the castle. It should however be noted that the magnificent timber-framed barns at Milden Hall (Figures 126-127) have been inspected by Oliver Rackham, who drew the owner's attention to the presence of reused timber used as wall posts (Figure 128; Juliet Hawkins pers. comm.). Rackham pointed out that it would be impossible to replace these timbers without dismantling

the whole barn, but they showed evidence of weathering on the *inside*. As a result, Rackham has claimed that these timbers should be interpreted as reused timbers that had been in a previous structure before c.1530, when they were reused in the new barns (Juilet Hawkins pers. comm.). It is argued here that an old Milden Hall represented by the house platform in the eastern half of Foxburrow Field is the most likely source of this timber and that dendrochronology should be able to date this timber and possibly the house platform. However, as the barns are listed buildings, the dendrochronological dating would require a specialist. There may have been several rebuilds of the structure on the house platform during its history. It is argued here that there are two possible interpretations of the earthworks in the eastern half of Foxburrow Field: they are either contemporaneous with the castle, which may suggest that an outer bailey was associated with the castle, or more likely with a replacement of the castle.

5.4.7.b.ii: A pit

A small and shallow irregular pit was also identified and located between the house platform and the earthwork. This pit is on a north-south alignment 0.2m deep, 17m long and 11.5m wide (Map 5.90). This could be a product of excavating for gravel, the remains of a structure with a basement or, mostly likely, the relic of a former pond associated with the later manor. Only by excavation will its function be identified.

Chapter 6.0: Discussion, analysis and conclusions

The previous chapters and appendices accompanying this thesis have encompassed an enormous quantity of data. The objective of this dissertation is to identify the constraints and catalysts operating on castle-building in Suffolk (Chapter 2.6). This final chapter will ask and then answer some of the key questions regarding castles and in doing so identify some of these constraints and catalysts operating on Suffolk castles.

6.1 What were the epistemological and ontological assumptions of this dissertation?

1. Castles are an important archaeological feature, which survive today as standing archaeology or earthworks in the landscape of Suffolk.
2. To study a subject a coherent theoretical framework is necessary to create models and test claims rather than provide a descriptive narrative. This was the original objective of archaeological theory (Clarke 1968; 1973: 6-18).
3. Existing theoretical models (Chapter 2.4) proved inadequate to explain castles (Chapter 2.5) and an alternative model was therefore required.
4. The lack of a clear theoretical model in castle studies has resulted in conceptual chaos and it was argued that the traditional definition of a castle as a 'defensible lordly residence' could not distinguish castles from earlier Anglo-Saxon OE *burhgeatas* or later medieval moated sites (Chapter 2.2).
5. An alternative definition was offered: a castle is a specialist building introduced into England by members of a new secular elite, based upon a continental model, designed to withstand siege by a real or potential threat and, which may, or may not, have been the principal residence of a lord and his family, or the *caput* of a *demesne* fief. It was emphasised that to withstand a siege the key factor was the provision of a water supply (Chapter 2.2).
6. On the basis of the definition and archaeological evidence at least thirty-one castles of all periods can be identified in Suffolk (Appendix 1.1-31).

7. Castles were introduced into Suffolk during the late 11th-century. The majority are evidenced as built before c.1200, but most had also ceased to be operational by that date (Table 2.3; Chapter 2.5.1.b). Only four new castles were built after c.1200 (Table 2.3). Those earlier castles that did survive into the 13th century and were often rebuilt in stone are characterised as being either royal or baronial castles (Map 2.5). Contrary to many of the existing theoretical models most castles were not a long-term but short-term phenomena and those castles operational beyond or built after c.1200 represent atypical examples.
8. This thesis established a data-set of twenty-seven castles built between 1066 and 1200 (Appendix 1.1-27; Chapter 2.8) and accepts that there may have been other as yet unidentified castles from this period. The chronological distribution of castles constrains the definition of the normative castle to those built between 1066 and 1200.
9. The Little Domesday Book provided base-line data about each of the vills in 1086 where castles were built, augmented by evidence from other contemporaneous historical records and sources (Table 2.1; Appendix 2.0).
10. The creation of a castle represented a considerable investment, which placed a substantial demand on the resources of their agent's fief and immediate local environment, identified as its local topography, geology, hydrology and contemporaneous timber-supply. These environmental factors also defined the wider distinctive environments and local ecologies, which gave rise to demographic distribution, cultural practices and are described in this thesis as pays (Appendix 4.0).
11. The criteria for this alternative model were established(Chapter 2.9). These were:
 - based on the archaeological reality of the earthwork remains of castles;
 - generalising in application;
 - appropriate in scale;
 - it can handle multi-disciplinary data;

- sophisticated enough to account for change over time;
- offers an explanation of the role of agency
- and it is testable (Chapter 2.10).

15. The theoretical framework offered was an updated and modified Braudelian *Annales* model (Chapter 2.11), which offers several advantages:

- It is an established model with a long pedigree, especially amongst continental medievalists.
- It offers a dynamic model of time, which can identify the interaction between different levels of time. The *Annales* model allows the identification of the constraints and catalysts operating on normative castle-building in Suffolk by dividing the evidence into different levels of time. The evidence of the *longue durée* is defined as a castle's environment consisting of its climate, topography, geology and hydrology. The middle level of the *Annales* model identifies the societal level of time which can be subdivided into three distinct but inter-related types of evidence - structural, social and cultural. The *évènement* level of time consists of the event based time of the historical data, which informs the political and social context the castle was built in and the dynastic ambitions of castle-building agents.
- It can handle large quantities of multi-disciplinary data, provides a coherent methodology for ranking data and a means of testing empirical claims.
- It is flexible and can stand changes in theoretical emphasis without abandoning its core objective of generating a 'total history' of phenomena in the past.
- It permits the innovative adoption into the *Annales* model of two neo-processual concepts:

1. Punctuated equilibrium:

Castle technology is characterised by long periods of stasis but can also demonstrate rapid change, which can produce, over a very short period of time, considerable quantities of

archaeological material (Gould and Eldredge 1977: 115-151; Gould 1980: 119-130; Gould and Eldredge 1993: 223-7; Shennan 1993: 53-9).

2. Dual inheritance:

Castle-building agents are subject to both biological and cultural evolution. The inability to produce a legitimate male heir in a patrilineal society meant the loss of the dynasty's fief and castles (Boyd and Richerson 1985; Shennan 1997: 1-6). Cultural factors explain why the dynasties with higher status tend to have more reproductive success, as evidenced by the longer survival of their patrilineal lines of descent (Hartung 1976: 607-622).

6.2 Where in the topography of Suffolk were castles built?

Liddiard (2000a: 3; 2000b: 6-9) is wrong to assume that the best fitted location for defence is the highest point in the topography. The median height for castles in the data-set is OD +50 m. Twenty, or 74%, of the castle sites are situated lower in the topography than this median figure and the largest number of five, or 18.5%, of castles, occur in the range OD +41 m to OD +50 m. Moreover, no Suffolk castle was constructed in the highest point in either the topography of the county or parishes in which they occur (Table 3.2, Chart 3.1; 3.2). Suffolk castles are constrained to low locations because there is no adequate water-supply in the higher topography (Woodland 1946: 3 & 10).

Suffolk castles are constrained to low locations in the topography of the county. Burnthall earthwork at Great Fakenham, like all medieval Breckland settlements (Dymond 1968: 19; Sussams 1996: 6), was constrained to a low situation in the topography next to a water-course in a river-valley, because the distance from the surface to the piezometric surface is too great to be accessed elsewhere in the Brecklands. Suffolk castles are frequently located close to water-courses in river-valleys or are associated with fords, which also inform Suffolk Domesday place-names (Table 3.16; Map 3.19). Unless artificial, fords are the product of local geological and hydrological conditions. Twenty, or 74%, of the castles in Suffolk command fords. Half of these fords cross minor watercourses and are therefore only of local significance, while the remainder carry major communications routes across the main Suffolk watercourses. In all cases it is suggested that control of these communication bottle-necks was an additional factor in the selection of these locations for building castles (Chapter 3.24.2; Maps 3.4; 12; 17; 19; Table 3.18).

Of the data-set, 85% were constructed on sloping ground and 15% were constructed on level ground. It has been argued that sloping ground offered the advantage of drainage of the site by

gravity, which is especially important when earth-fast construction techniques are used (Chapter 3.3).

Furthermore, outside of the river-valleys, in the relatively high topography of High and South Suffolk, the surveyed sample found that castles were often situated at the top of a slope, where a spring line occurs, or the topography intersects a perched piezometric surface contained in an aquifer or a 'gault' occurs, as for example at Burgate, Milden, Desning and Groton. Gaults occur where patches of glacial sands and gravels overlie a less permeable lens of clay in the Lowestoft till and create a local aquifer. The source of water-supply in gaults is easily polluted, limited in volume and subject to seasonal variation (Woodland 1946: 9-11; Forby 1970b: 129; Moorlock *et al.* 2000: 64; Appendices 15.1, Chapters 3.9.1.a ; 5.2, 5.3, 5.4; Maps 5.7; 5.28, 5.68 & 5.82).

6.3 Why are the majority of Suffolk castles made from earth and timber?

The only stone available in the county for cutting into ashlar blocks is septarium, which occurs in association with London Clay (Chapter 3.6.3; Jope 1967: 91-118). It can only be mined in any quantity in a limited number of inter-tidal locations in the Waveney valley and southeast Suffolk estuaries. Therefore, access to it was restricted in the 11th and 12th centuries to the crown and the Bigod family, who used septarium to build castles or keeps, at Orford, Bungay and Framlingham (Whittaker 1885: 10; Brown 1964: 16; Braun 1991). The transportation of stone into the county between 1066 and 1200 was expensive and difficult (Leighton 1972: 94), and as a result of the paucity of stone, earth and timber was the normative building fabric for Suffolk castles.

Of the castle data-set, 55% were originally constructed solely with earth and timber, 37% were earth and timber but contained some stone element in their construction, 4% were all stone from the inception and the original fabric of the remainder is unknown (Table 2.2; Chart 2.1; Chapter 2.5.3.e). Therefore, the normative fabrics of 92% of Suffolk castles were solely or overwhelmingly earth and timber structures (Table 2.2; Chart 2.1; Chapter 2.5.3.e).

Two distinct medieval maritime environments were identified (Chapter 3.17), described (Appendix 5) and distinguished by their different hydrology, hydro-geological processes, navigability, maritime place-names, produce and lordships. The county was sub-divided into four river catchments separated by watersheds (Chapter 3.14; 3.18; Map 3.16) and it was argued

that river place-names are some of the oldest place-names in Suffolk, suggesting that rivers were especially significant landscape features (Appendix 7). It was suggested that inland navigation in the 11th and 12th century was more extensive with many more water-courses than today and that riverine navigation played an important role in the movement of building materials, especially stone. Finally, it was noted that all the 11th- and 12th-century castles in Suffolk with a stone element in their construction, apart from Haughley, and seven of the nine castles in Domesday vills that evidence no woodland at pig in 1086 are located adjacent to seasonably navigable water-courses or the coastline (Tables 3.23-24; Chapter 3.26.1).

6.4 How does the solid geology of Suffolk influence the location and distribution of castles?

Of the castles data-set, 56% are located on a solid geology of crag, despite this solid geology overlying only a third of the county, and 41% are located on a solid geology of chalk, despite this being the most frequent solid geology and underlying two-thirds of the county (Table 3.3; Map 3.3). London clay contains virtually no water and the aquifer is located at such a great depth in the solid geology that it was unable to be accessed until the modern well-boring technology became available and appears to have been avoided by Suffolk castle-builders for this reason (Chapter 3.6.3; Woodland 1946: 22).

In most of Suffolk chalk the aquifer is buried deep in the geology under a drift of Breckland sands or Lowestoft till (Chapter 3.6.1; Woodland 1946: 10-11 & 50), and within ten to twelve miles of the coast this aquifer is subject to saline pollution (Woodland 1946: 11-12; 19; Whittaker 1906: 9-10, 107, 118-9 & 150).

Chalk is a suitable geology for constructing earthwork enceintes, as its mechanical properties mean that it possesses a high angle of rest, can be raised to a considerable height and does not require timber revetments (The War Office 1962: 21; Chapter 3.12.1; Table 3.4; Figures 23-4). Six Suffolk castles, at Clare, Great Fakenham, Lidgate, Lindsey, Offton and probably Ipswich, have their earthworks constructed from the solid geology of chalk (Map 5.55; Appendices 1.5; 13; 17-19; 22).

Crag contains a shallower but more limited aquifer. A drawback of sinking wells in this geology is running sands, which makes steining and frequent maintenance necessary to remain functioning (Chapter 3.6.4). The geology is not suitable for raising earthworks as it does not hold an acute angle of rest, cannot be raised to a great height and requires timber revetment (The

War Office 1962: 21; Chapter 3.12.1; Table 3.4; Figures 23-4). As a result, only two Suffolk castles, at South Cove and Walton were built directly on this geology (Appendices 1.26 & 1.27). However, all three known Suffolk castle wells, at Bungay, Framlingham and Orford, are sunk into this geology (Whitaker 1906: 34; Raby and Baillie Reynolds 1963: 19; Brown 1964: 18).

6.5 How does the drift geology of Suffolk influence the location and distribution of castles?

Engineering informs us that most drift geology found in Suffolk will not stand without timber or stone revetments to support the enceinte of earthwork or maintain its acute angle of rest and prevent slippage or lateral creep. However, two drift geologies are suitable for raising earthworks (Chapter 3.12.1; Table 3.4; Figures 23-4):

1. A mixed geology of sandy gravel, sand and clay or gravel and clay as found in river valleys.
2. A stiff or very stiff clay, like Lowestoft till, containing a high percentage of sand and gravels, for example, where crag underlies Lowestoft till, or where gaults of glacial sands and gravels occur within this clay drift geology.

Some 52% percent of Suffolk castles are located on a drift geology of Lowestoft till, 15% on River Terrace Gravels, 7% on Glacial or Glacial-fluvial Sands and Gravels and 7% on Alluvial soils (Table 3.5; Map 3.6; Chapter 3.9.1-5; 3.10). Therefore, 81% of Suffolk castles are located on the drift geology of either glacial drifts or river-valley geologies; a distribution that corresponds to the geological distribution of Welsh motte and bailey castles (Neaverson 1947: 17; Spurgeon 1987: 35).

The location of buildings over glacial sands and gravels is not unique to castles. English (2002: 45-51) identified OE *worth* place-names as also being associated with this geology in Hampshire. Anglo-Saxon *worths* and Anglo-Norman earth-and-timber castles had different hydrological requirements, but they shared identical building fabrics and technology. As a result, similar environmental and technological constraints are anticipated to be working on both structures.

Where the dominant drift geology of Lowestoft till clay contains little sand or gravels or London clay occurs, the clay soils can be exceptionally heavy (Medical Directorate General Headquarters, India 1945: 524). The raising of earthworks on this geology must have

necessitated a substantial workforce, suggesting a relationship between the population of Domesday vill and the castle earthworks raised in Suffolk. A baronial castle might draw a workforce from its numerous fiefs, whereas sub-baronial castle-builders had to rely on the limited workforce of their own smaller fiefs, or had to seek the assistance of their feudal overlords or hire labour. The practice of unlawfully using forced labour for castle-building became an acute and widespread problem during the civil-wars c.1139-53. On the 23rd July 1147 Pope Eugenius III wrote to the Archbishop of Canterbury and other English bishops condemning the excesses of the civil war, especially the attacks suffered by Abingdon Abbey at the hands of certain named individuals and, specifically, denouncing '*castellorum operationes*', which is the use of forced labour for castle-building (Stevenson 1858: 200).

Drift geology also informs the density of moat and ponds. In the past, isolated settlements high in the topography of Suffolk relied on domestic drinking ponds known as 'pulks' for water-supply (Forby 1970b: 263; Woodland 1946: 10). Ponds and medieval moated sites are unevenly distributed, but both are overwhelmingly associated with the Lowestoft till plateau that dominates High and South Suffolk (Map 3.18). Impermeable lenses of clay in the Lowestoft till of the till plain plateau favour the construction of ponds and wet moats in these two pays. By contrast, the permeable drift geology of the Suffolk Fens, Breckland, Sandlings and Lothingland peninsula do not favour the construction of ponds or wet moats and, as a result, ponds and medieval-moated sites are rare in these pays (Sibbert 1999; Martin 1999e: 60-1 & 199; Map 6.3).

6.6 How do the combinations of drift and solid geologies in Suffolk influence the location, distribution and morphology of castles?

Only five, or 18.5%, of Suffolk's castles are located on the most frequent combination of solid and drift geology in the county (Table 3.6), which is chalk overlain with a drift geology of Lowestoft till. This combination overlays more than 50% of the county, including the highest locations in the topography, and is thus associated with an exceptionally deep aquifer, which explains why few castles are located on this combination of geologies (Chapter 3.6.1; Woodland 1946: 10-11 & 50).

By contrast nine, or 33%, of the data-set are located on the second most common combination, of crag overlaid by a drift of Lowestoft till, a distribution that reflects the frequency of this combination of geologies in Suffolk (Chapter 3.10).

The data also suggest that in the area of the county where the solid geology is chalk and drift geology is Lowestoft till, discrete areas where atypical combinations of geologies occur and these were deliberately selected as the location of the other 47.5% of Suffolk castle sites. It is suggested here that the selection of these discrete areas of geology are either a result of trying to access water or to find a suitable geology to construct wet moats or raise the castle's earthworks (Neaverson 1947: 3-5; Halsall 2000: 17-21).

The original morphology of twenty-three earthworks in the data-set are identified, as 13 (57%) motte and bailey, 7 (30%) ring-works and 3 (13%) possessing a unique morphology (Chapter 3.14; Table 3.11; Map 3.8). The ratio of motte and bailey to ring-work in England is 3:1 (King and Alcock 1969: 90-127), whereas in the Suffolk data-set the ratio is 2:1.

The data for solid geology and morphology demonstrate that 77% of motte and bailey castles and 43% of ring-works overlie crag and 23% of motte and bailey castles and 43% of ring-works overlie chalk (Table 3.12). This suggests that ring-works can be built on either solid geology but that motte and bailey castles favoured a solid geology of crag.

The data demonstrate that 62% of motte and bailey castles and 43% of ring-works overlie a Lowestoft till drift geology (Table 3.13). However, only one motte and bailey castle at Desning overlies the dominant combination of geologies in the county: a solid geology of chalk overlain by a drift geology of Lowestoft till (Table 3.14). However, the survey of Desning castle demonstrated that an intermediate geology of glacial sands and gravels that could be quarried exists between the thin drift of Lowestoft till and the deep solid geology of chalk (Appendix 15.1.2 iii, Figure 76-77; Map 5.28). As a result, not a single motte and bailey castle, the most frequent morphology found in the Suffolk castles, exists on the most frequent combination of geologies found in the county.

6.7: How does hydrology constrain the location of Suffolk's castles?

Suffolk is defined as a territorial entity by the hydrology of its coastlines and river-systems (Chapter 3.16). All water-supply is ultimately a product of the seasonally variable rate of precipitation, which is unevenly distributed across Suffolk. The climate is characterised by long droughty summers and harsh wet winters (Chapter 3.15; Appendix 4). The exceptionally low rate of annual precipitation, low relief of the topography, dominant solid geology and depth of the aquifer mean that water-supply has always been problematic in Suffolk (Chapter 3.15; Woodland 1946: 10; Mathers *et al.* 1993: 34 & 36).

It was argued that any building can be turned into a fortification (Liddiard 2000b: 6-9) but only those with an adequate water supply can withstand a siege (Chapter 2.2; Neaverson 1947; Spurgeon 1987: 23-50; Ruckley 1990: 14-26; Burgers 2001). Ruckley (1990: 23-4) has argued that a water supply is not necessary for a keep, as some believed (Brown 1976: 76; Steane 1985: 85), but is essential for a castle. Therefore, hydrology is one of the key environmental constraints operating on castle-building.

A third of all castles in Suffolk and 70 % of motte and bailey castles were located on crag overlain by Lowestoft till, because this geology has a shallower aquifer and was easier to access for medieval well-sinking in Suffolk. The importance of hydrology is most clearly demonstrated where the aquifer was difficult to access, for example:

- In the survey sample, Burgate, Desning, Groton and Milden castles were located high up on slopes on gaults where perched piezometric surfaces occur (Maps 5.7;28;68;82).
- The three Breckland castles at Freckenham, Great Fakenham and the Red castle at Thetford had to be located in river valleys in order to access an aquifer (Appendices: 1.11; 13; 25; Sussams 1996: 6; Dymond 1968: 19).
- The only castle in the London clay district at Nayland had to be located on an island in the river Stour because the aquifer is too deep (Appendix 1.21; Figure 147).
- Burgh castle was built within a Roman shore fort, as this overlies the only discrete area of Lowestoft till on the Lothingland peninsular where a shallow well could be sunk or a pond dug (British Geological Survey 1990b).

Water-supply in medieval Suffolk was an important limited resource, subject to lordly control and required to provide two types of water, 'live' water for drinking and 'still' for stock and domestic use (Squatriti 1998: 21; 24 & 28). A series of technologies and hydro-geological phenomena were exploited by castle builders in Suffolk during the 11th and 12th century in order to supply water. These included: 'still' sources, like reservoirs, wet moats, lakes or ponds and 'live' sources from wells, cisterns, springs, meres or watercourses (Chapter 3.23; Spurgeon 1987: 23-50; Ruckley 1990: 14-26; Burgers 2001).

The use of several different sources of supply appears to be common; this was in part to provide the different types of water, but also because the seasonally variable nature of water-supply in Suffolk made any single source of water-supply vulnerable to seasonal failure.

Beyond locating earthworks on gaults, there is evidence of imaginative engineering solutions to water-supply. For example, Desning castle (Map 5.38 Figures 79-82 & 84) was supplied by a spring-fed lake with a sophisticated dam and sluice system that formed part of the motte, while Groton motte, like Goltho or South Mimms, probably contained a central cistern or a well, sunk into the glacial gravels that underlie the site and located underneath the former tower (Kent 1961: 318; 1963: 322; 1964: 255; 1968; Barker and Higham 1982: 40; Higham and Barker 2000: 63 & 67-9; Beresford 1987: Fig. 109 101, 103-4, Map 5.76; Figures 14-15; 17-18).

Modern drainage, water-extraction and supply have profoundly altered the hydrology of Suffolk since the 11th and 12th centuries. However, the different pays demonstrate different geologies, hydrological conditions, constraints and solutions to water-supply (Appendices 4.1.1; 4.2.3; 4.4.3; 4.5.3; 4.6.3; 4.7.3; 4.8.3). For example, the uneven distribution of ponds and the 850 medieval moated sites across the county (Map 3.18 & 6.3; Martin 1999e: 60-1 & 199) reveal an overwhelming concentration of both features on the central Lowestoft till plain plateau in the pays of High and South Suffolk (Martin 1999e: 60-1 & 199).

6.8: How were castles distributed across the different environments and ecologies of medieval Suffolk?

Suffolk evidences several distinct environmental niches defined by local climate, topography, geology, hydrology and Domesday timber supply. Localised cultural practices such as seafaring, herring or eel fishing and processing and sheep and barley agriculture were evidenced, which helped to create pays with distinct local identities in the 11th and 12th centuries (Appendix 4; Map 3.21).

The concept of pays is problematic because of coverage, accuracy, scale, resolution and different studies failing to agree on the number of environments. However, the environmental-cultural approach based upon empirical data and using pays (Chapter 3.28.; 3.29.1-2; Appendix 4) is superior to the empirically weaker and ultimately unfalsifiable (Chapter 2.10.4; Popper 2002: 18) 'symbolic landscape' or 'lordship of landscape' approach to castles (Austin 1984: 69-81; Liddiard 2000b; 2005; Johnson 2000; Creighton 2002; Creighton and Higham 2004: 5-18).

The largest number of Suffolk castles, 12 (or 44%), are located in the pays of High Suffolk and 7 (or 26%) are located in the pays of South Suffolk (Map 3.22). This suggests that 70% of castles are associated with the central clay-land plateau, a distribution that is identical to the distribution of later moated-manor houses (Jean Le Patourel 1979; Martin 1999e: 60-1 & 199; Map 6.2-3).

The pays of High Suffolk evidences the largest number of castles because of its high rainfall, relatively low topography, shallow aquifers, a drift geology suitable for earthwork construction as well as for excavating moats, the highest density of ponds in the county (Sibbert 1999; Map 3.18) and the greatest quantity of Domesday woodland at pig. This environmental niche is the best fitted location in Suffolk for castle building as well as some of the highest densities of 'rural' free population in the county (Darby 1971: 172-3).

6.9 What relationship did Suffolk castles have with strategic communications?

Medieval road communications outside the Brecklands and Sandlings were poor during the winter or after rain (Chapter 3.24.1) and the precise courses of roads are difficult to trace. By contrast, fords represent a limited number of fixed crossing-points, produced due to the geology and hydrological conditions that determine where communication routes could cross watercourses or artificial fords be built. It was noted that bridges were rare in Suffolk before c.1200 (Table 3.22; Map 3.19), but that control of communication routes and specifically bridges, fords and ferries facilitated the collection of tolls.

It has been argued that fords and bridges not only constrained land communication but also constrained riverine communication by creating portage points, where cargoes had to be transhipped so that vessels could be hauled through the shallows (Chapter 3.24). Where fords or bridges crossed navigable watercourses nodes of communication occur, with riverine traffic passing up and down the watercourse as well as land traffic passing across it, as for example at Great Fakenham (Appendix 15.3.1; Figure 98; Maps 5.50-1. It was noted that Desning, which had the largest area, contains numerous fords within its territory, across which the principal major and minor land communications routes linking East Anglia with the rest of England pass (Appendix 15.1.1; Maps 5.23; 26; 31).

Five, or 18.5%, of Suffolk castles, at Burgh, Ipswich, Orford, South Cove and Walton, were associated with the estuaries of major medieval ports (Appendices 1.4; 9; 23; 26-7). It is argued

that Burgh, Orford and Walton were sited, in order to deny Hugh Bigod dominance over the North Sea maritime environment, as each castle controlled maritime access to the Bigod castles at Bungay and Framlingham and the centre of Hugh's fief on the Colneis peninsula (Tables 3.16-7; Map 3.14; Appendices 1.2;10.).

The four remaining surveyed castle sites were linked to land communications routes. Burgate commanded the road junction where the road to Lopham Fen met the old Roman road from Diss to Ixworth (Chapter 5.2.1; Map 5.4). Finningham was located on Allwood Green, from where numerous local land communication routes radiated and which was situated on the boundary between the Liberty of St Edmund and the geldable area of Suffolk (Appendix 15.2.1; Map 5.41). Groton commands a minor ford and the local communications routes leading into the village from Parliament Heath as well as the ford across the river Box and the road to Edwardstone (Chapter 5.3.1; Map 5.65). Finally, Milden commanded a series of local communication routes that passed through the lands of this Domesday vill (Chapter 5.4.1; Map 5.79).

6.10: What constraints did the Domesday timber supply place on Suffolk castles?

Suffolk woodland is dominated by oak. It has been subject to numerous ecological cycles and woodland management long before 1066 (Appendix 19). Therefore, Domesday timber-supply is interpreted as a structural constraint operating at the societal level of time in the *Annales* model.

England at Domesday was not a heavily wooded compared with contemporary north-western Europe. Domesday Suffolk had relatively little, unevenly distributed woodland compared with the rest of England and East Anglia in 1086 (Darby 1971: 179-82; Rackham 1986: 16; 1990: 67; 1999: 64-5 and 200). At the same time the county possessed an exceptionally large population (Darby 1971: 167-75), suggesting that a considerable demand was placed on a limited resource.

It was noted that the method used in the Suffolk Domesday book to calculate woodland is by pigs, a form of measurement that occurs both within and outside the Danelaw and therefore cannot be of Scandinavian origin. This measurement of woodland is recorded in those Domesday counties that formerly lay on the boundaries of the middle Anglo-Saxon kingdoms of East Anglia and Essex *c. AD 600 to 825* and suggests an Anglian method of measuring woodland (Chapter 3.26.2).

Only three Domesday Suffolk villis where castles occur demonstrate a loss of woodland at pig between 1066 and 1200 (Tables 3.23-4), including the only castle recorded in the Domesday Book at Eye (Rumble 1986: 18, 1.). The two other sites are the ring-works at Burgate and Creting St Peter, the former of which has produced 'Saxo-Norman' pottery (Chapter 5.2.1; Appendices 1.3; 6). Eales (1990: 49-78) has argued that the majority of castles were built immediately following the conquest, but if he is correct, why is no greater loss of woodland evidenced by 1086?

Timber-frame building techniques require the oak to be worked green (Darrah 1982: 219), which means that the major structural timbers were heavy and difficult to transport any distance apart from by water (Leighton 1972: 94). As a result, local timber supply must be relatively close to the building under construction. Whereas major abbeys in the 11th and 12th century, such as St Edmund's, had the money, man power and transport capacity to move timber considerable distances by road, many smaller secular lordships had neither access to remote woodland estates nor the means of transporting any quantity of timber any distance, as Rackham suggests (Rackham 1982: 199-218; 1998: 135-60). Therefore, apart from where castles were located on a navigable watercourse, most of the timber for castle-building must have been sourced from the Domesday vill in which they occur.

The entire concept of woodland at pig was tested by several calculations (Jędrzejewska *et al.* 1994: 664-676; Maroo and Yalden 2000: 243-248; Fearnley-Witthingstall 2001: 142; Department of the Environment, Farming and Rural Affairs 2007; Table 3.23). All apart from DEFRA's modern intensive rearing calculation suggested that areas of woodland required to support the different densities of pigs were in some cases larger than the parishes (Minchin 1911: 683-695) where castles are located (Table 3.20).

It is suggested that woodland at pig is a *qualitative* measurement of Domesday woodland that reflected the ability of a woodland to feed pig at different stages of its ecological cycle rather than a *quantitative* measurement of the area of woodland, but this hypothesis requires further testing.

Twenty-seven castles and thirty-four new religious houses were built or rebuilt between 1066 and 1200 (Chapter 4.26; Map 4.5 & Table 4.1). This building boom must have placed a serious demand on a limited woodland resource and placed a disproportionate demand on the 'outsized' and 'standard' oaks in Domesday Suffolk, because the simple scarf joint was not evidenced until c.1180 in East Anglia.

6.11: How does archeologically attested contemporary carpentry technology influence earth and timber castle-building?

The majority of timber-framed buildings and probably earth and timber castles were built from oak, which is strong and virtually fire proof (Timber Development Association Ltd 1944: 6-8 & 28; Figure 27; Rackham 1990: 67-8; Harris et al. 2003: 85).

The construction of timber-framed buildings such as the Cressing Temple barns in Essex required the felling of 400 to 700 oaks for each barn, and even the smallest earth and timber castle must have made a substantial demand on the local timber supply (Rackham 1993: 85-92; 1998: 147; 1999: 64). Archaeology evidences two new and apparently contemporaneous advances in English carpentry technology in the late 12th century. These affected the length of the operational life and the size of earth and timber castle buildings (Chapter 3.27). They were the shift from earth-fast to ground-sill construction and the introduction of the simple scarf joint (Chapter 3.27).

6.11.1: Earth-fast and ground-sill construction

Earth-fast was the dominant form of timber construction until the second half of the 12th century, when ground-sill construction starts being archaeologically evidenced in England (Brigham *et al.* 1992a: 18-19; Milne 1992b: 131-7). Earth-fast up-right structural timbers deteriorate quickly at ground level and such buildings have a limited operational-life, as they need to be frequently rebuilt. By contrast, in ground-sill construction the structural timbers are not buried and therefore do not deteriorate as quickly, giving a building a longer operational life, as it requires less frequent rebuilds. Before the late 12th century earth-fast construction limited the operational life of all earth and timber buildings, including castles, to an inherently short life span (Chapter 3.27.1-3), which challenges Coulson's (1994b: 67-92) assumption that castles with short operational lives should be considered 'fortlets'.

6.11.2: Simple scarf joints

The first archaeological evidence of the simple scarf joint (Figure 28) in England is from the London waterfront c.1170 and in East Anglia at the Cressing Temple barns c.1180 (Brigham *et al.* 1992: 14-22; Milne 1992b: 131-7; Goodburn 1992: 106-130; 1997a: 249-257; 1997b: 155-161; Rackham 1993: 85-92). Prior to c.1170-80 there was no archaeologically attested carpentry technique to join lengths of timber together to form a single continuous piece of timber and this

resulted in the disproportionate felling of the outsized and standard oaks in Suffolk's woodlands (Chapter 3.27.1).

The lack of a scarf joint also limited the area of stone buildings to the largest available timbers. For example, the St James gatehouse at St Edmund's Abbey is constrained by the width of its internal stone-corbel-supported timber floors (Figures 34-39). Moreover, the keeps of the White Tower in London and numerous Anglo-Norman castles evidence an internal cross-wall to support the double-pitched roof necessary to roof over such a wide area (Renn 1973: 152-3, 169-173, 281-5, 295-8, 299-303, 326-330). The lack of a simple scarf joint in timber-framed buildings restricts their length, height and width to the longest available timber (Rackham 1993: 85-92).

As a result, earth and timber castles and their principal building built before the late 12th century were discrete, not because they were 'fortlets' as Coulson believes (1994b: 67-92) but because timber was a limited resource and carpentry technology of timber buildings restricted their size.

Earth and timber castles before the late 12th century are short-lived due to their earth-fast construction and small size because carpentry technology did not allow them to be constructed any larger. Therefore, the constraints operating on earth and timber buildings are different from those operating on stone buildings and profoundly influence the claims that can be made about the use of space in stone-castles and also how applicable the conclusions that can be drawn from stone castles are to the normative earth and timber castles found in Suffolk (Dixon 1992: 85-107; 1996: 47-56; 2000: 121-139; Dixon and Lott 1993: 93-101; Dixon and Marshall 1993: 16-23; 1994: 410-32; 2002: 235-43; Marshall 1998: 110-25; 2002a: 27-36; 2002b: 203-14).

6.12: How did the different contemporary administrative jurisdictions in Suffolk in the 11th and 12th century influence castle-building?

In the 11th and 12th centuries the county of Suffolk was sub-divided into administrative districts that pre-dated the Conquest.

6.12.1: County

At Domesday Suffolk was a wealthy, rural, urbanised and populous county (Maps 2.2 & 2.3; Darby 1971:164-75 & 379). Until the late 12th century Suffolk formed a single administrative unit with Norfolk and shared a sheriff responsible for the former core area of the middle-

Anglian kingdom of East Anglia c. AD 600 to 869 and late Anglo-Saxon Earldom of East Anglia c. 917 to 1075.

For most of the period 1086 to 1200 the physical area of Suffolk was 1488 square miles (3 854 km²) (Ordnance Survey 1891). Since Domesday Suffolk has gained Exning from Cambridgeshire c.1090, but lost the southern half of the Domesday borough of Thetford c.1894 and northern part of Lothingland c.1974 to Norfolk (Thomas 1999: 28-9 & 193; Dymond 2003: ix), which makes Burgh and the Red castle in Thetford Suffolk castles and not Norfolk ones, as some believe (Rogerson 1994: 68-9; Liddiard 2000b).

6.12.2 The Liberties and geldable Suffolk

From 1066 to 1200 Suffolk was subject to three distinct jurisdictions (Map 2.7; Martin 1999b: 26-7; 193):

1. Geldable Suffolk consisted of eight and half hundreds, or approximately 45% of the county, jointly administered with Norfolk by the sheriff of East Anglia and his deputies and fully integrated into the royal administration of the kingdom.
2. The Liberty of St Æthelfryth consisted of six hundreds, covered approximately 15% of the county and was remotely administered by the Abbey of Ely on behalf of the crown.
3. The Liberty of St Edmund consisted of eight and a half hundreds, covered approximately 40% of the county, and was directly administered by the Abbey of St Edmund.

Eleven castles in the data-set, or 41%, were constructed within the Liberty of St Edmund. Four, or 15%, were constructed within the Liberty of St. Æthelfryth and twelve, or 44%, were constructed within geldable Suffolk. Therefore, 56% of Suffolk castles were built within territory subject to monastic administrations and 44% within territory subject to the royal administration. This distribution contradicts the assumption that ecclesiastical institutions restricted castle-building (Wallace-Hadrill 1975: 157-174; Dalton 2000: 53-75; Bachrach 2003; 2004: 1083-1104).

6.12.3. Hundreds

The percentage of freemen and the free element of the rural population in Domesday Suffolk were exceptionally high compared with the rest of England. The administration of the hundred continued throughout the 11th and 12th centuries, and the associated institutions of the hundred and farthing courts must have been considerably more influential in Suffolk than in other counties with lower Domesday populations of freemen (Map 2.3) (Darby 1971: 168-9 & 379).

The number of freemen in Suffolk at Domesday was 7 730 and in Norfolk 5 250. This meant that 40.9% of the population were freemen compared with 19.9% in Norfolk and that 90% of Suffolk's free element of the population, comprising freemen and sokemen, in Suffolk were freemen compared with 49% Norfolk. In addition, the density of free population in Suffolk is greater at 5.8 per square mile (2.23 per km²) than Norfolk's 5.19 per square mile (2 per km²) (Darby 1971: 379).

However:

1. There are 23 'rural' castles and a total free 'rural' population of 8 589 in Suffolk, compared with Norfolk's 15 'rural' castles and a free 'rural' population of 10 660. This is a density of one 'rural' castle per 69.7 square mile (168 km²) in Suffolk and in Norfolk one 'rural' castle per 136.8 square mile (355 km²).
2. Twelve of 'rural' Suffolk castles, or 57%, occur in hundreds where the free element of the population was greater than 50% of the population (Table 2.10; Darby 1971: 361).

Liddiard (2000a: 37-46) implied that free population restricted castle-building, but if this were true it should also be working at the scale of resolution of the hundred and the county.

6.13. If free population does not constrain castle-building, what role does Domesday population play?

It is argued here that the social demographic data is less significant than the absolute population data. The key evidence is that 76% of Domesday villas that evidence castles between 1066 and 1200 have a higher mean absolute 'rural' population than the county 'rural' mean for a Domesday vill.

There is no evidence for significant shifts in the absolute population or social demographic between 1066 and 1086. Therefore, the high level of population and low free population in those 'rural' Domesday villis that evidence castles between 1066 and 1200 pre-dated the Conquest.

The relationship between Domesday population and castles was highly complex, but the six surveyed castles suggest a possible explanation.

- At the Domesday villis of Desning (Appendix 15.1.5) and Burgate (Chapter 5.2.4) there was in 1066 a single secular late Anglo-Saxon lord to whom the whole vill was subject and no free population, but both villis possessed free population located in remote outliers.
- By contrast, Groton (Chapter 5.3.3) within the Liberty of St Edmund was a manor under a reeve of St Edmund's Abbey, but there was no secular late Anglo-Saxon lord of the manor. Finningham (Appendix 15.2.5) in geldable Suffolk was not yet a manor. Both villis had no secular lord, had been subject to more than one remote late Anglo-Saxon Lord and demonstrate exceptionally high levels of free Domesday population.
- At Milden (Chapter 5.4.3) and Great Fakenham (Appendix 15.3.5) there were more than one late Anglo-Saxon manor or sub-manorial holding in the vill, a secular lord of the manor and some free Domesday population.

It is argued here that the percentage of free and non-free population in the vill was determined by the degree to which the vill was manorialised during the late Anglo-Saxon period and the number of late Anglo-Saxon lords holding in the vill. Douglas (1927: 205-19) has argued that social demographics in East Anglia were not static and claimed the manor was a wholly artificial introduction into the East Anglian villis, which were originally characterised by free or lord-less communities. These communities were subject to a gradual process that saw the free population becoming manorial tenants over time, which occurred from the late Anglo-Saxon period through the Anglo-Norman period into the 13th century. He also pointed out that this process was more notably advanced where villages were subject to ecclesiastical lordship (Douglas 1927: 11).

It is argued here that the Domesday population data is a snap-shot of this process. Finningham and Groton are examples of pre-manorialised villis, Milden and Great Fakenham are partly-

manorialised and Desning and Burgate were manorialised prior to Domesday. However, this change did not follow a social evolutionary trajectory as Douglas assumed. For example, the late Anglo-Saxon vill of Desning was wholly subject to a single lord of the manor in 1066, but even before 1086 it had been rented to a reeve and by the mid-12th century had fragmented into numerous sub-manorial holdings held by the military tenants of the Clare family (Rumble 1986: 25,3.; Appendices 15.1.5.; 15.1.6.d & 15.1.7). This suggests that, although there was undeniably a cultural trend towards the introduction of manors in Suffolk during the 11th to 12th centuries, individual vills can demonstrate a unique trajectory of development.

It is argued that the absolute 'rural' population of a vill is the key. In a subsistence economy the high absolute 'rural' Domesday populations associated with castles, suggest that these vills were superior environments that could support a higher 'rural' population (56.43 per vill) than the mean for the county (30.21 per vill) and a greater density of 'rural' Domesday population in their parishes (17.5 per square mile), compared with the mean for the county (12.85 per square mile) in 1086.

Domesday population may have played a practical role in raising the earthworks of earth and timber castles. This must have been especially difficult in small or isolated fiefs such as at Burgate, Groton and Milden with low Domesday populations. However, it is noted that those 'rural' Domesday vills with castles that demonstrate the low levels of Domesday population at Milden (17), Burgh (15) and South Cove (12) (Chapter 5.4.; Appendices 1.4;20;26; Tables 2.1 & 2.6) also evidence interesting design solutions. Milden and South Cove earthworks were raised from discrete lighter geologies within their parishes and at Burgh a motte was raised within the pre-existing stone walls of a Roman shore fort (British Geological Survey 1990b; 1991; 1996b). Moreover, the Domesday vill with the largest 'rural' populations evidence the largest castle earthworks, for example at Bungay (207) and Framlingham (109) castles and, in the surveyed sample, at Desning (139) (Appendices 1.2; 7; 10; 15.1; Table 2.6).

6.14: How did the Abbey of St Edmund influence castle building in Suffolk?

The 11th and 12th century saw the late Anglo-Saxon St Edmund's Abbey redeveloped into one of the largest and most important pilgrimage centres in north-eastern Europe. This included a new planned town and the construction of a new Abbey church, one of the largest buildings north of the Alps. To support this vast enterprise, thirty-nine Domesday Suffolk vills were exclusively held the Abbey (Chapter 4.21; Map 4.3).

The crown-appointed Abbot of St Edmund's Abbey led a royal monastic community that enjoyed exceptional royal patronage and ardently supported the King throughout the 11th and 12th centuries (Chapter 4.12). The Abbot's influence was predicated on a unique combination of secular powers (Chapter 4.19; 4.26), ecclesiastical autonomy (Chapter 4.15) and spiritual authority, resulting from the physical presence of St Edmund and other regional saints at Bury St Edmunds (Chapter 4.1-8; 4.10; 4.24-5). Unlike secular feudal lordships, the Abbey of St Edmund did not face the problem of patrilineal inheritance, apart from problems arising from heiresses such as Nesta de Cockfield (Appendix 16.7.4.). The Abbey never owned any castles of its own, but secular Abbey officials such as the stewards of St Edmund and Adam I de Cockfield built castles within the Liberty of St Edmund between 1066 and 1200 (Appendices 1.14; 18; 16.7.1.; Chapter 5.4).

In order, to meet the Abbey and barony of St Edmund's feudal obligations to the king an organisation called the Knights of St Edmund was created, which was the largest feudal-military organisation based in the Liberty from 1086 to 1200 (Chapter 4.30-7). In peace-time they garrisoned Norwich castle and in wartime undertook military service on behalf of the crown (Douglas 1932: lxxxix & 83-4; Douglas and Greenway 1981: 976-7). Its original membership was largely obscure and sub-baronial, but by the late 12th century it had come to include many of the major secular elite dynasties in Suffolk (Table 4.3).

The Abbot also administered the Liberty of St Edmund on behalf of the crown, where the Abbey collected the Danegeld and administered low justice. However, the Abbot also acted as viceroy within the Liberty, administering high justice and presumably the royal prerogative to license castles within the Liberty (Chapter 4.14).

Between 1066 and 1200 two baronial and nine sub-baronial castles were built in the Liberty of St Edmund. Of these, five were constructed by dynasties that were members of the Knights of St Edmund and five by allies of Abbey, only Milden being known to have been hostile (Map 4.6; Appendix 1.20; Chapter 5.4).

The first recorded royal license to crenellate in Suffolk is dated 1204 and was issued in circumstances where it was extremely unlikely the Abbot would have granted Thomas de Burgh permission to crenellate Lindsey castle, due to the disputed marriage of the ward of St Edmund's Abbey and heiress, Emma de Cockfield (Hardy 1844: 104; Farrer 1924: 360; Greenway and Sayers 1998: 122-3).

The Abbey of St Edmund's did not simply seek to control the new secular elite by means of the viceroyship, the barony of St Edmund or membership of the Knights of St Edmund. It also sought to protect the shrine, Abbey church, monastic assets and Liberty by deliberately emphasising a new *topos* in the hagiographic tradition of St Edmund: his capacity for divine vengeance. Its area of effectiveness extended from the immediate vicinity of the shrine, to the county and eventually to a nationwide level, so that by the 13th century St Edmund's vengeance had an inter-continental strike range. This *mentalité* of St Edmund as an avenging saint was deliberately constructed by the Abbey c.1090 in Herman's new biography. The vengeance *topos* was expanded by the agency of St Edmund's Abbey throughout the period under discussion and demonstrates how much Abbot Baldwin and his successors feared the new secular elite's potential for violence in 11th- and 12th-century Suffolk (Chapter 4.2-6; 4.24-5).

It is argued that the Abbey of St Edmund's managed castle building in order to protect the Liberty and its core eighteen villas around Bury St Edmunds (Map 4.7). It allowed castle-building in support of the crown. It drew castle-building agents into a feudal organisation of the Knights of St Edmund, and as viceroy the Abbot was probably responsible for licensing castles and suppressing them on behalf of the crown. Its development of a new *topos* in the hagiography of St Edmund as an avenging saint is precisely contemporaneous with the introduction of castles of the new elite into the Suffolk landscape. Finally, except for rebuilding Lindsey, the Abbey allowed no new castles to be built within the Liberty after the civil wars of King Stephen's reign.

6.15: Who built castles in Suffolk?

Three groups built castles in Suffolk: the crown, the county's baronage and those who were not barons but built castles anyway. In Suffolk castles can be royal, baronial *caputs* or sub-baronial. Sub-baronial castles are defined as any not built by the king or as a baronial *caput*, which includes castles built by royal, Abbey or baronial officers or ambitious heads of non-baronial dynasties as well as 'adulterine' 'fortlets'.

The conquest of East Anglia c.1070-5 saw the introduction of a new feudal system of social organisation, characterised by a hierarchy granted land in return for military service. The new secular elite, which replaced the pre-existing late Anglo-Saxon elite in Suffolk, included the Bigod, Clare, Burgate, Valognes and Melding dynasties (Appendices 16.1-2; 16.5-7; 16.9).

Personal military service, rather than the more abstract concept of 'lordship', was the defining characteristic of the new elite. It justified their existence, explains their motivation and profoundly influenced their activities, including castle-building.

A lord's social standing was directly determined by the number of military tenants he possessed, which created a social hierarchy within the elite of *baro*, *banneret* and *knight* during the 11th and 12th century (Stenton 1961: 38-40; Bloch and Manyon 1978: 332-344; Prestwich 1996: 13-15). Furthermore, Dhondt's (1963: 47-83) 'gang culture' model emphasises feudal relationships extended beyond the dynastic kinship group, to encompass different groups within the new secular elite.

In a feudal society with a subsistence economy successful military service for the crown was the principal method by which members of the new elite could increase their wealth, gain new fiefs and raise their social status. This is demonstrated by the dynasty of Richard fitzGilbert (Appendix 16.2) and the *Clarenses* based in Desning and Hunden c.1135-50 (Moore 1897: 171; Butler 1962: 70; Greenway and Sayers 1998: 61-63 & 143 n). By means of military service to the crown, members of the Clare family acquired additional baronies in England, Wales and Ireland between 1066 and 1200 (Ward 1989: 261-78).

Sub-baronial members of the elite like Robert de Burgate might perform military service for the crown and be promoted from baronial to royal knight (Hill 1932: 15). Most of the sub-baronial members served as the military tenants of barons, for example, Adelelm de Burgate who worked for the de Vere family (Prestwich 1996: 13-15; Appendices 16.2; 5), Adam I de Cockfield's family who served St Edmund's Abbey or that of Peter I de Melding who served the bishop of Norwich. The last two dynasties both advanced their status from knight to *banneret* by acquiring more knights' fees as the military tenants of ecclesiastical lords (Chapter 4.30-38; Appendices 16.7; 16.9).

This new feudal elite practiced a strictly patrilineal inheritance. The principal alternatives to military service by the secular elite for acquiring wealth and land were through dynastic marriages (Stenton 1961: 81n., Walker 1976: 104-116; Ward 1967: 107-111; 1989: 273; Faulkner 1996: 1-23) or the inheritance of land from childless relatives (Landon 1930: 174-9; Dodwell 1960: 147-65; 1962: 185-199; Harper-Bill 1990: 46). Both methods became increasingly important as the 11th and 12th century progressed, as the crown increasingly favoured *scutage* payments rather than personal military service, which reduced the opportunity for many members of the nobility to advance their dynastic ambitions and personal wealth by warfare (Hall 1896a: 16-134).

6.16: What do the Knights of St Edmund tell us about the secular elite in Suffolk?

By making many major and minor secular elite dynasties in Suffolk his feudal tenants, the Abbot of St Edmund's Abbey gained their support while he exercised feudal authority over these potentially dangerous families.

The documentary evidence allows us to examine how the Knights of St Edmund changed as an institution between 1086 and 1098, in terms of membership and the value, population and acreage of the fees (Tables 4.2; 4; 9; Chart 4.1-4; Rumble 1986; Douglas 1932: 14-24). Secondly, it demonstrates how the membership and distribution of fees changed between 1086 and 1200 (Table 4.3; Rumble 1986; Douglas 1932: 14-24; Douglas and Greenaway 1981: 976-7; Greenway and Sayers 1998: 106-8).

The original holders of the fees were neither hereditary nobility (Douglas 1932: cv) nor a homogenous group, including both laity and clergy. The largest and most valuable fee was held by Frodo, Abbot Baldwin's brother (Chapter 4.32.1; Chart 4.1; 2). Royal officials were represented by three county sheriffs and a group of Bretons, probably former officials of Earl Ralph of East Anglia (Chapter 4.32.2-3.). The membership did not include any of the baronage apart from Peter de Valognes, baron of Bennington in Hertfordshire (Appendix 16.6). However, some of the knights of other baronial families held additional fees from St Edmund's Abbey (Chapter 4.32.4).

The majority of the original membership had been sub-baronial but had by 1098 seen a 20% turnover, with a reduction of the number of individuals holding fees from forty to thirty-five, with many of the clergy losing their fees (Chapter 4.32.5-6). Of those holding at Domesday, fifteen lost land, fifteen gained additional land and only two retained the same amount of land in 1098 (Chart 4.1; Table 4.4; Chapter 4.33).

In 1166 the Knights had increased to thirty-nine individuals owing 51¼ fees to the Abbey, and in the same year Henry II banned any new gifts from the Abbey's *demesne* lands (Douglas 1932: 100). From c.1135 new baronial families appear holding knight's fees: including the Bigod, de Glanville, de Vere, Pecche and Clare dynasties. Thirty-eight knights held the 52¼ fees by 1200, a rationalisation having occurred between 1166 and 1200, with many of the fractional fees disappearing (Chapter 4.35-6).

In the period c. 1196-7 the Abbey had series of major disagreements with the knights about the land they held, the number of knights who owed service, their refusal to serve overseas and a general move to *scutage* payments rather than personal service. Although, there is evidence of the knights being organised for garrisoning Norwich castle into the 13th century, their effectiveness as a military force was limited, so that their activities as jurors and in Abbey ceremonials became increasingly important (Hall 1896a: 16-134; Greenway and Sawyer 1998: 51-53, 58-61, 76-77).

The Knights of St Edmund appear to demonstrate an enormous amount of change between 1086 and 1200 in their structure, fees, service and membership, which mirrors a trajectory identified by Holt (1992: 47). It is notable that the baronial dynasties appear to acquire a greater number of the fees as time progresses at the expense of sub-baronial Knights of St Edmund, and they continued to hold these fees in the case of the Clare, Bigod and de Vere dynasties for long periods.

6.17: How was warfare conducted in Suffolk between 1066 and 1200?

A monopoly of warfare was a defining characteristic of the new Anglo-Norman elite. Warfare was conducted as part of a gang and the motivation was the acquisition of wealth. Battle was avoided because of its unpredictable nature, while the over-decisive nature of its outcome created great personal risk to gang leaders. Instead an indecisive form of warfare developed, dominated by sieges and raiding, of which the civil wars of King Stephen's reign are a good example. To reduce the dynastic risk, the secular elite bound itself with a chivalric code to protected gang leaders and members but excluded those of a lower social order, rebels, foreigners, heretics and non-Christians (Smaile 1956: 4-7; Delbrück and Renfroe 1990: 324; Oman 1991a: 52-4; Rogers 1992: 254- 73; Bachrach 1994: 119-133; Strickland 1996: 330-50; Honig 2001: 111-126).

Only one battle is recorded in Suffolk between 1066 and 1200, at Fornham St Genevieve in 1173 (Beeler 1966: 176; Johnston 1981: 73-81; Oman 1991b: 400-2; Mullally 2002: 127-9). By contrast, eight or nine sieges are documented in Suffolk during the same period:

- At Bungay and Framlingham c.1140 (Luard 1865a: 228 & 230).
- Archaeological evidence suggests and historical records imply that Great Ashfield castle was captured and destroyed c.1141-53 (Appendix 1.12; NSMR Suffolk 175;

SAUSMR Great Ashfield ASG 001; Hall 1896a: 408-9; Lyte 1920: 601; Dugdale 1846: iv 311).

- At Ipswich 1153 (Potter and Davis 1976: 236-7; Greenway 1996: 768-89).
- At Walton and Dunwich (Stubbs 1869: 54-55; 1876a: 377; 1879: 246; West 1973b: 25-37; Johnston 1981: 59, 63-7, 71-3), Haughley (Madden 1866: 377-381; Stubbs 1867: 60-1; 1872: 222; 1876a: 378; Luard 1874: 292; Howlett 1884: 178-9; Arnold 1890: lvi) and Eye in 1173-4 (P.R. 21 Hen. II: 126).
- At Bungay 1174, though the castle surrendered before the siege commenced (Madden 1866: 388-9; Stubbs 1867: 73, 78 & 93; 1868: 64 & 68).

6.18: What role did castles play in warfare?

Historical evidence suggests that raiding was a more frequent form of warfare than battle as practiced in 11th- and 12th- century East Anglia (Potter and Davis 1976: 166-7; 174-5 & 238; Callahan 1976: 113-116; Contamine and Jones 1984: 101; Giles 1994: 495; Greenway 1996: 746-7; Greenway and Sayers 1998: 122-3; Chapter 2.5.3.b.).

The activities of the castellans 'W. of Milden' and 'W. de Ambli' in attacking Semer and Groton (Greenway and Sayers 1998: 122-3) would support the claim of the anonymous English author of the Peterborough (E) manuscript of the Anglo-Saxon Chronicles. Writing in the year *c.*1137, the author was clear about the effect of large numbers of castles and the danger they represented to good governance (Swanton 1996: 264-5). According to William of Newburgh *c.*1196-8, castles specifically encouraged private wars between nobles and enabled lords to behave in a tyrannical manner, for example by illegally minting coins and unlawfully administering justice (Howlett 1884: xxiv, 69-70).

The smaller sub-baronial castles should be seen in this context. They were designed to facilitate and prevent raiding by relatively small forces. Sieges were undertaken, but the logistical advantage lay with the defender. The technology of siege artillery was not widely available and even the crown had no permanent organisation for its manufacture, transportation, operation or storage until the 13th century (Bachrach 1994: 119-133; 2004: 1083-1104; Hall 1995: 257-275).

Changes in warfare are frequently perceived to be driven by changes in technology. Siege technology changed during the mid-12th century with the introduction of the trebuchet (Appendix 3.0). The slow spread of this technology meant that the English crown does not evidence a formal organisation for constructing these and other siege weapons until the 13th century (Bachrach 1994: 119-133). The trebuchet technology was refined, so that by the beginning of the 13th century the counter-weight trebuchet was accurate enough to be able to repeatedly hit an area 6 m x 6 m (Denny 2005: 561-577). Earth and timber keeps, especially those built before the introduction of the scarf-joint were large enough to be a target but too small to sustain the damage that the trebuchet could deliver. This resulted in two changes in castle design from the early 13th century:

1. Keeps were no longer built on mottes, as they were now vulnerable to direct artillery fire.
2. Castle walls and gatehouses were either replaced by stone walls and gatehouses, or high enceintes were raised to protect the principal castle building.

6.19: How did the crown seek to control castle building in Suffolk?

The legal position of castles were ambiguous in the 11th and 12th centuries (Coulson 1994a: 86-137; 1994b: 67-92) because the laws governing castle-building were customary before c.1118, when the first written legislation is recorded in *Leges Henrici Primi* (Downer 1996: 109; 177; 249), and the first license to crenellate in Suffolk is not evidenced until 1204 (Hardy 1844: 104), which occurs in exceptional circumstances and after most of the county's castles had ceased to exist (Farrer 1924: 360; Greenway and Sayers 1998: 122-3). Moreover, legislation to control castles demonstrably failed in 11th- and 12th- century Suffolk as evidenced by the crown undertaking punitive action against castles, notably those of Hugh Bigod in Suffolk (Chibnall 1969: 310-9; Potter and Davis 1976: 105, 200-2; 236-7 & 241; Van Houts 1996: 227; Greenway 1996: 213 & 768-89; Mynors *et al.* 1998: 472-3; Swanton 1996: 223; Wareham 2005: 29-41).

From the late 11th century onward rebellion could lead to the confiscation of baronial castles by the king rather than their destruction, for example Eye and Highly castles, which became fiefs granted to a series of royal favourites (Sanders 1960: 43-4; 46-7; 120-1; Appendix 16.3-4).

King Stephen first adopted a policy of demolishing castles in early c.1139 (Stubbs 1889: 547). Henry II continued this policy; destroying or confiscating castles, unlicensed or otherwise, built in England since the death of Henry I, apart from those deemed useful to the crown (Madden

1866: 307; Stubbs 1868: 215; Luard 1874: 214; Howlett 1884: 102). The cost of garrisoning castles and the impracticality of leaving captured castles without a garrison probably left the crown with little option but to slight many earth and timber castles, which contained a quantity of commercially valuable building materials. The crown therefore slighted castles to reduce conflict, deny them to others, avoid having to garrison them and generate a profit from their demolition.

Henry II's most famous and best documented confiscation in Suffolk was at the 1157 Whitsun court at St Edmund's Abbey, when the Earls William IV de Warenne and Hugh Bigod had their castles taken into royal hands because of their constant private feuding (Arnold 1890: 259; Howlett 1889: 192-3; Warren 1973: 67-8). Henry II also introduced additional legislation governing access to castles by royal officials at the Assize of Clarendon 1166 (Douglas and Greenaway 1981: 440-3) and engaged in another bout of castle-slighting following the Assize of Northampton 1176 (Stubbs 1867: 73, 78, 110 & 127; Douglas and Greenaway 1981: 444-6).

The new secular Anglo-Norman elite possessed a monopoly on castle-building, but for much of the 11th and 12th centuries the law governing castle-building was ambiguous, the term 'adulterine' was not used until the 13th century, there was no technical term for temporary field-works or evidence of a license to crenellate until that of 1205 in Suffolk, and the laws governing castles demonstrably changed a great deal between 1066 and 1200. The legalistic definition of castles advanced by Coulson (1994a: 86-137; 1994b: 67-92) is inapplicable to the normative Suffolk castles that pre-date much of the legislation, but it is most certainly true that from 1153 few new castles were built in Suffolk. The evidence is that before c.1118 the legislation governing castle-building was customary and castle owners were drawn from a wider range of the new Anglo-Norman elite, but by c.1200 castle-building was highly restricted and in Suffolk were restricted to royal or baronial *caput* castles.

6. 20: What were the catalysts for castle-building in Suffolk?

The catalysts for castle-building are harder to identify than constraints as the reason why any individual castle was built represents a unique set of historical and political circumstances in which the different castle-building agents found themselves.

Henry I annexed the baronial castles at Eye and Haughley to the crown at the beginning of the 12th century (Appendices 1.8 & 15; 16.3 & 4) and King Stephen built three further castles in the region c.1144-5, tentatively identified here as Burgh; Finningham and Walton (Potter and Davis 1976: 175; Appendices 1.4; 8 & 27). However, the first identifiable royal-built castle is Orford

c.1165-74, which is also the only new castle evidenced as built in Suffolk between c.1153 and 1200 (Potter *et al* 2002). It was constructed by Henry II at a former Domesday outlier of Sudbourne manor to command Orford Haven at the mouth of the river Ore. This led to Framlingham castle, the stronghold of Hugh Bigod, 1st Earl of Norfolk and earlier the chief rebel against King Stephen (Appendices 1.10 & 16.1.4). Following the death without issue at Toulouse in 1159 of Hugh's principal local rival, Stephen's son William IV Warenne, Hugh paid a substantial fine c.1163 to re-acquire his castles at Bungay and Framlingham (Reeve 2001: 4; Appendices 1.2 & 10).

Of the baronial castles, Eye was the only castle historically evidenced as built before 1086 (Appendix 1.8; Rumble 1986: 18, 1.). Clare castle were built c.1090 and Haughley probably about the same time (Appendices 1.5 & 15; Sanders 1960: 120-1) Next documented are Bungay and Framlingham castles, built before c.1139 (Appendices 1.2 & 10). It is probable that work had started on Great Ashfield during the civil wars c.1139-53, but it was destroyed before it was completed (Appendix 1.12). No new baronial *caput* castles were built in the county after Bungay and Framlingham, although both of these castles were substantially rebuilt in septarium c.1163-5 and c.1190 respectively (Reeve 2001: 4; Plowman 2005: 43-50).

Sub-baronial castles represent the great majority of Suffolk castles, and the surveyed sample demonstrates a diverse range of morphologies, sizes, agents and historical contexts.

Burgate ring-work (Appendix 1.3; Map 5.16) commands the Diss-Ixworth-Lopham Fen junction (Map 5.4). It was constructed before 1086 by Adelelm I de Burgate on a manor which he held in *mesne* from Aubrey I de Vere (Map 5.15; Appendix 16.5.1). Adelelm may have been a senior baronial official, and the ring-work appears to have been built to protect a small group of isolated but valuable de Vere manors in north Suffolk, located far from their *caput* at Hedingham in Essex (Chapter 5.2; Maps 5.13-4).

Desning motte and bailey (Appendix 1.7; Map 5.38) commands almost all road communications between West Suffolk, Cambridge and the Midlands (Maps 5.23 & 26). It was constructed after Clare castle c.1090 by Richard II or Gilbert II de Clare (Map 5.37; Appendices 16.2.3-4) for the Constable of the de Clare *familia*, known as the *Clarenses* (Moore 1897: 171). They had been granted land at the largest two Domesday 'rural' villas that the de Clares owned in West Suffolk at Desning and Hundon c.1139-48, (Map 5.34). Desning is interpreted as having been built in the early 12th century, just before or at the beginning of the civil war in Suffolk c.1139 (Appendix 15.1).

Finningham ring-work (Appendix 1.9; Map 5.49) commands Alwood Green, being located on the boundary between geldable Suffolk and the Liberty of St Edmund (Map 5.41). It was constructed c.1144-53, probably as an extreme western outlier of the royalist castle at Eye (Map 5.48), as there is no lord of the manor at Finningham until the 13th century (Hardy 1835: 317; Frere and Frere 1899: 2-3; Copinger 1909a: 264-6; Brown 1992: 164) and the ring-work is not located within the village but on the periphery of the parish (Map 5.39-40). Finningham castle is interpreted as the only genuine adulterine castle among the surveyed castles and was possibly one of those built by King Stephen (Potter and Davis 1976: 175; Appendix 15.2).

Great Fakenham ring-work (Appendix 1.13; Map 5.62) commands a major ford on the seasonally navigable Blackbourn river (Figure 95; Map 5.51). It was probably constructed c.1110, when Roger I de Valognes acquired the Honour of Bacton held from the bishop of Norwich for thirteen additional knight's fees in Suffolk, as the de Valognes family had already established their baronial *caput* castle at Bennington in Hertfordshire (Landon 1930: 174-9; Dodwell 1960: 147-65; Dodwell 1962: 185-199; Harper-Bill 1990: 44-6; Appendices 15.3 & 16.6.2; Map 5.61).

Groton is a South Mimms-type motte and tower castle (Appendix 1.14; Map 5.76). It commands the northern approaches to and from Groton but lies some distance from the village (Map 5.63-5). It was constructed by Adam I de Cockfield (Appendix 16.7.1; Map 5.75) prior to the Abbey granting him his own exclusive manor at Lindsey c.1135-40 (Douglas 1932: 118-9, 120-1), where he would build his principal castle. Groton probably pre-dates Lindsey castle, as William of Diss tells us that the tower was built where Adam had his hall (Greenway and Sayers 122-3). Adam is known to have first acquired land in Groton and Lindsey not from the Abbey as a feudal tenant but by inheriting property in both villas from Anglo-Saxon relatives (Map 5.75). Groton earthwork is interpreted as Adam's original sub-baronial *caput*, with the tower described by William of Diss, which was replaced by a new castle at Lindsey when Adam was granted it along with Cosford hundred by the Abbey (Chapter 5.3; Greenway and Sayers 1998: 109-110; 122-3; 156).

Milden motte and bailey castle (Appendix 1.20; Map 5.90) commands the local communication network. It was constructed by Peter I de Melding just before or at the beginning of the civil wars of 1139-53 (Appendix 16.9.2; Chapter 5.4). It was the only manor of the de Meldings in Suffolk and was held for three knight's fees from the Honour of Bacton, which the bishop of Norwich had granted to the Roger I de Valognes c.1110 (Landon 1930: 174-9; Dodwell 1960: 147-65; 1962: 185-199; Harper-Bill 1990: 44-46; Appendix 16.6.2). It is the only hostile castle documented in the Liberty. William of Diss (Greenway and Sayers 1998: 122-3) related that the

castellan 'W. of Melding', probably a brother of Peter (Map 5.89), had attacked the Abbey vills of Groton and Semer and that this had resulted in the Abbey granting Adam I de Cockfield the manors for his lifetime rather than as a fief.

Rather than Eales' (1990: 49-78) and Coulson's (1994a: 86-137; 1994b: 67-92) interpretation of two pulses of castle-building in the aftermath of the Conquest, c.1066-1086, and during the civil wars, c.1136-53, the evidence from Suffolk suggests a small number of castles in the 11th century, which rapidly increased in numbers until the mid-12th century, after which, apart from rebuilding existing ones, the creation of new 'rural' castles all but ceased in Suffolk after c.1200.

6.21: Why did the number of operational Suffolk castles decline?

Castle building in Suffolk ceased for a series of reasons.

The crown restricted castle building throughout England from the 12th century by introducing new legislation and reduced the number of extant castles in England by pursuing a policy of slighting castles. This active destruction is a clear indicator of their effective form and continuing potential. Furthermore, the crown did not create any new large baronies in Suffolk during the late 12th or 13th centuries. Those castles that did survive beyond 1200 are characterised as royal or baronial. The exception at Lidgate was held by the steward of St Edmund's Abbey, who was effectively a royal official. The Abbot of St Edmund's in his role as viceroy was probably responsible for slighting castles within the Liberty and appears to have been highly effective in this role after the civil war in East Anglia from 1139 to 1153, apart from Clare and Lidgate castles. The Abbey slighted castles not just because it was royal policy, but because the continuing presence of them encouraged private wars, as between William IV Warenne and Hugh Bigod, threatening good governance and the Abbey's own interests within the Liberty.

While baronial dynasties tend to have lengthy pedigrees well beyond the 12th century, it is noticeable that sub-baronial dynasties have shorter pedigrees. In the sample of surveyed castles the baronial Valognes dynasty and the sub-baronial de Cockfield and de Burgate dynasties ended at the beginning of the 13th century. The de Melding dynasty continued well into the 13th century but appear to have no longer held Milden. Along with the evidence from the Knights of St Edmund, it would appear that there was a higher turnover of sub-baronial than of baronial dynasties in Suffolk. When the male line of a dynasty failed, their property and heiresses became wards of the crown or their feudal lord, which in the Liberty was frequently the Abbot

of St Edmund. This process saw estates divided, reorganised and redistributed to new sub-baronial or baronial dynasties whose heads may have already had a *caput* castle or did not need or could not afford a castle.

The normative example of the earth and timber earth-fast castles in Suffolk had a limited operational life. The numbers constructed over such a short time must have exhausted the supply of outsized and standard oaks in the woodland of Suffolk by 1200. Earth and timber castles were from the mid-12th century becoming redundant as military technology due to the development of Greek fire, the trebuchet and organised siege trains. Although baronial and royal castles, such as Bungay, Clare, Eye and Framlingham, were rebuilt as stone castles in the late 12th and 13th centuries, sub-baronial lords simply could not afford the expense of transporting stone into East Anglia in order to rebuild their castles. They opted out of the arms-race and constructed moated 'manor houses' as residences rather than siegeable castles.

6.22: Summary

This dissertation has examined the castles in Suffolk built between 1066 and 1200 and identified royal, baronial and sub-baronial agents involved in their construction. Although they vary in size and morphology all shared a common function: they were designed to withstand siege. Castles were frequently located to command communication nodes or bottle-necks such as fords. Sometimes they were the *caput* castles of baronial or sub-baronial lordships but not in every case. The siting of these castles was considered, beyond the strategic criteria, and examined in relation to their local environments and the Domesday demographic.

The rapid rise, spread and then apparent stasis in castle-building in Suffolk all occurred during the late-11th and 12th century and demonstrate an example of punctuated equilibrium with a trajectory of 'stasis - rapid change – stasis'. Dual inheritance model was demonstrated by the difference between the length of the pedigrees of those baronial and sub-baronial dynasties that built castles and were members of the Knights of St Edmund.

This study of the catalysts and constraints in the construction, location and form of castles has facilitated a wider-ranging study of the castle in England. It has placed Suffolk castles securely in their unique social, political, historical, geographic and environmental contexts. It is hoped that this more nuanced approach has made a positive contribution to castle studies in Suffolk as well as of other periods and regions. It acknowledges that a 12th-century castle is a very different structure from a 14th-



century castle and that the concept of a castle is chronologically constrained. The real significance of the twenty-seven castle earthworks has been demonstrated, and they are identified as important archaeological assets in the landscape of Suffolk.

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